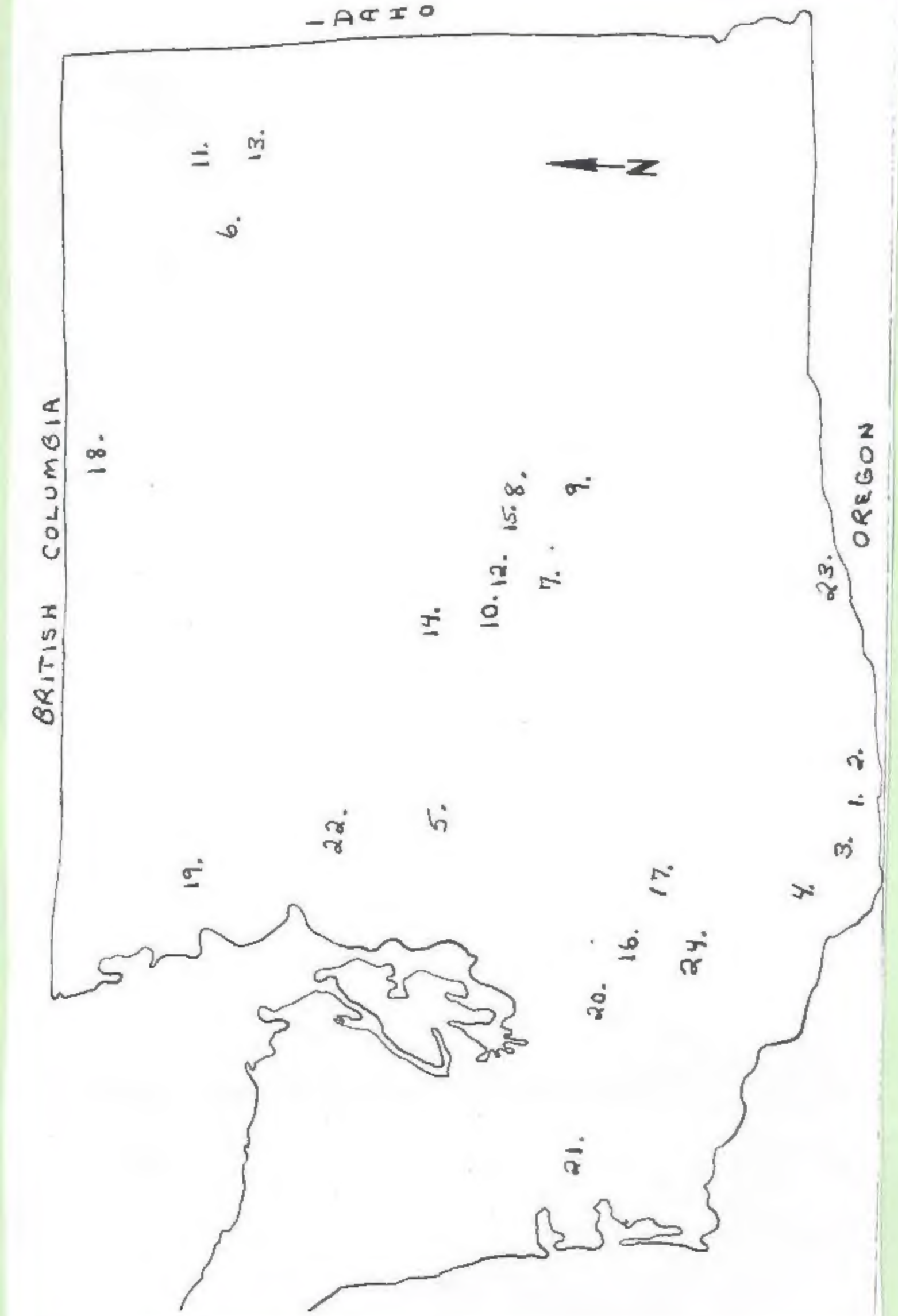
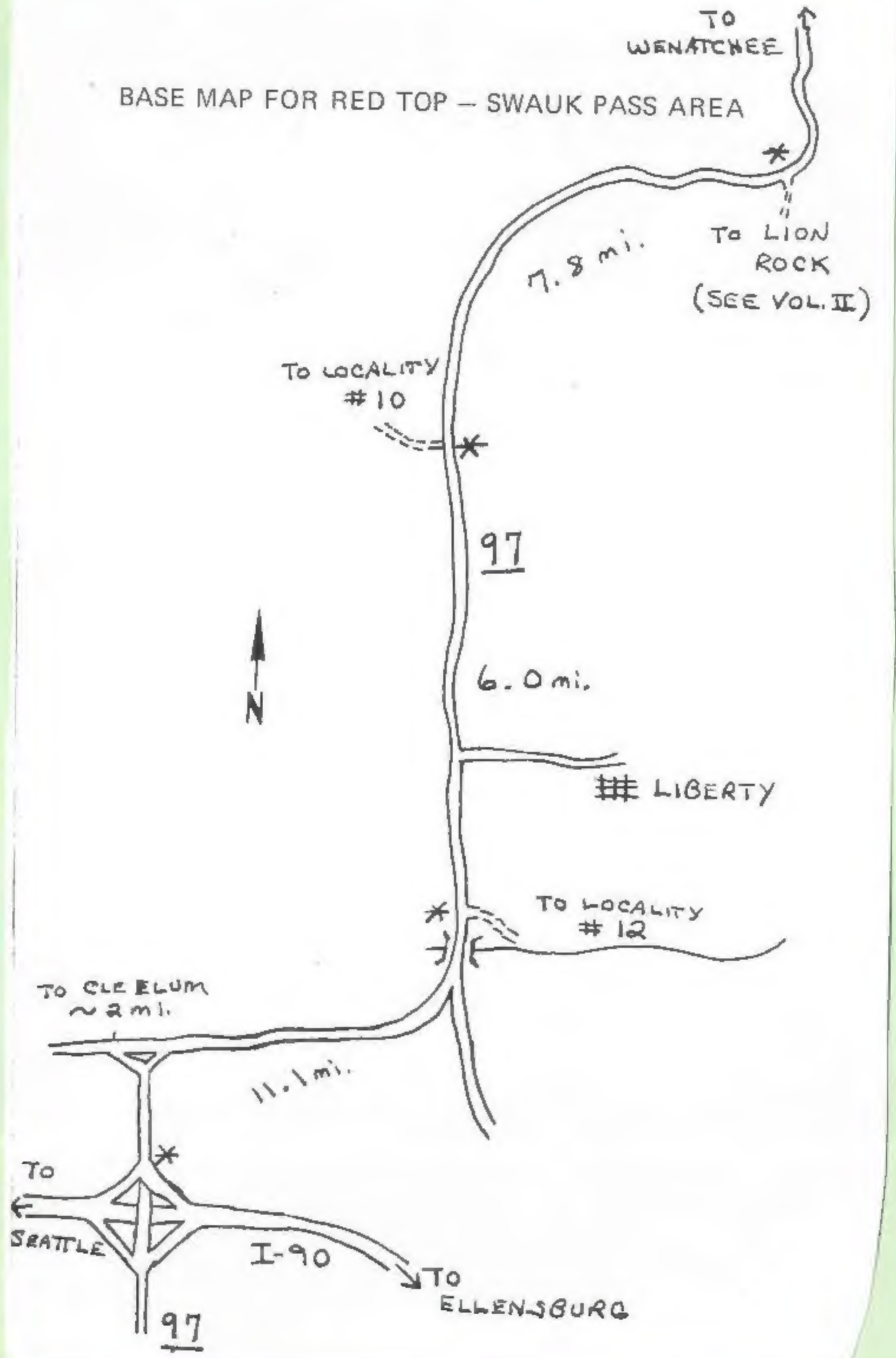
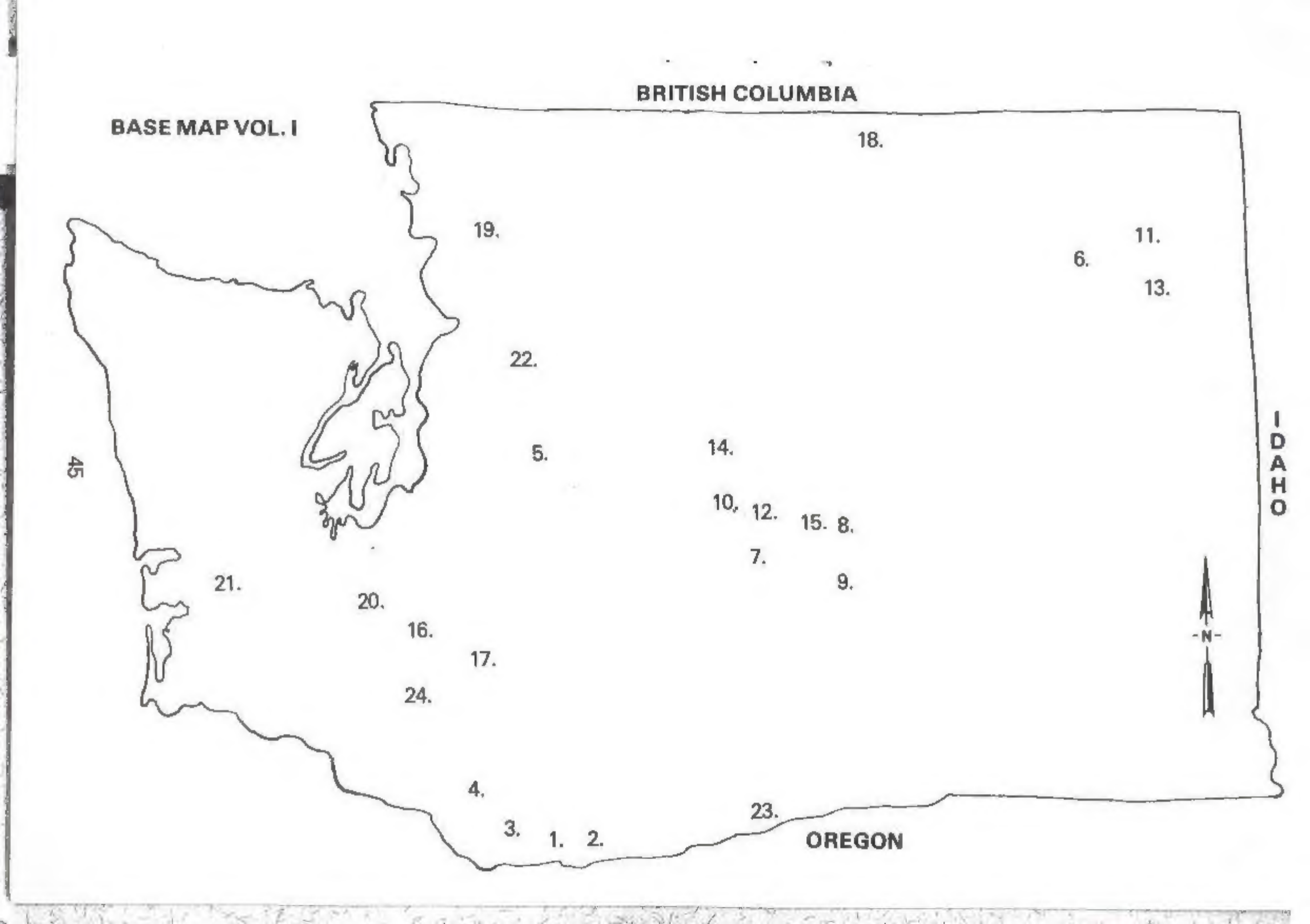



BASE MAP FOR RED TOP – SWAUK PASS AREA




BASE MAP VOL. I
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OREGON

Petrified wood. Center: Roosevelt. Clockwise from top right: Diatom Pits, Yakima Canyon, Vantage, Roosevelt, and Saddle Mountain.

Agates. Center: mossy blue, First Creek (weight, 5 lbs.) Clockwise from top right: banded, Salmon Creek; carnelian geode, Kalama; blue nodules, Crater Creek; fortification, Adna; blue geode, Red Top; carnelian, Lucas Creek.

## FORWARD

This book is intended to be the beginning of many successful field trips in Washington. We, the authors, have spent many hours researching and finding localities, and more time mapping and collecting at them, so that we can give you accurate directions.

The mineral wealth of this state is considerable. There are thousands of mines, prospects, outcrops and talus slopes which occasionally produce something to offer the collector. We have tried to include those localities where specimens are abundant enough that no one who follows our directions will go home empty-handed. As noted on the cover, this is volume I of The Rockhounds' Guide to Washington. Volumes II and III are presently in preparation. Volume II will contain 30 additional easily accessible localities for agates, wood, and crystals; volume III will cover localities where access is more difficult, involving hiking and/or jeeping.

## HOW TO USE THIS BOOK

Each locality at the front of the book has a number beside its title. These locality numbers correspond with numbered maps in the back of the book.

We have designed our maps for use in conjunction with a state highway map (available at most gas stations). Routes to all localities are indicated from the nearest major highway; approximate location of areas is shown on the base map, page 8. Use your state highway map to get to the area of the locality map.

The mileages shown on the locality maps are the distance from asterisk (*) to asterisk by the route shown. Since we visited each locality personally during 1974, the mileages are correct. The distance along trails was measured with a pedometer; unless you are a really poor judge of distance, you probably won't need one to find any of the localities.

The locality maps are not drawn to scale, since mileage is given. In general, the area immediately surrounding the locality is shown in smaller scale (greater enlargement) than the rest of the map, to include detail.

capital letters, i.e., QUARTZ, if the authors were able to collect specimens of them during a half-day field trip. Minerals designated by capitalizing only the first letter, i.e., Quartz, are those that have been found at the locality recently by other collectors, but which the authors did not encounter. Minerals designated in all lower case letters, i.e., quartz, are those that have been found at the locality but are not of recent importance.

This book only points out where we have been; it does not give you permission to collect or to trespass on any of the lands mentioned in it. Where we have gained access through individuals known to us, we have indicated whom to contact. In none of the localities have we had any trouble with the owners or anyone else. If you respect other peoples' property and pick up after yourself, you shouldn't have any trouble either.

## TOOLS

Many people have asked us what kind of tools we use for rock hunting. Described below are all the tools for which we have found uses in Washington. All of these are by no means necessary for the localities in this book; you can get by with a hammer, gad, and shovel.

Hammers

Geologists' pick: generally accepted as the symbol of the rockhound. We prefer the variety with a pointed end, but if you spend a lot of time hunting fossils, the type with the chisel end (also called a masons' hammer) will be better for you.

Short-handled sledge: we often find a two or three pound sledge to be of far greater use than the geologists' pick. We carry both sledge and pick.

Long-handled sledge: if you're into major rock moving, and don't mind hard work, you'll need a heavy sledge. We find eight pounds to be the best head weight. We carry this, but seldom use it.

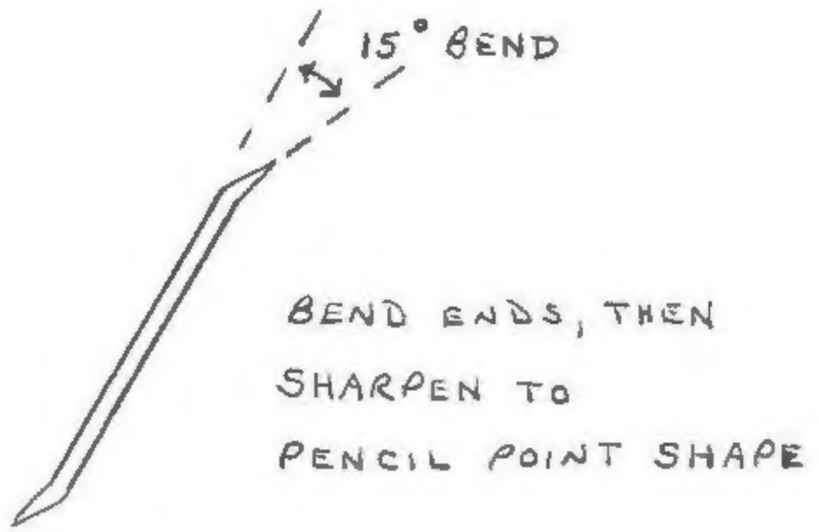


Gad point: also called "bull point", these taper to a sharp point, and are useful for initiating cracks in solid rock, and widening cracks. We have sizes from ½ inch diameter (shank) to 1½ inch diameter.

Flat end: commonly called "cold chisels". Useful for breaking layered rock, and for extracting vein specimens. Try to find ones with the sharp end about the same size as the shank, otherwise the corners break off. We carry ¼ inch to 1 inch sizes in short lengths, and a 1 inch by 2 feet for deep pockets.

Miscellaneous

Pry bars: for moving those BIG rocks. We have constructed an eight foot bar out of 1½ inch hexagonal steel — seldom do we encounter a rock this monster won't move. A sketch of how to make such a bar is below. John Sinkankas' Prospecting for Gemstones and Minerals gives very explicit instructions. We don't usually carry this bar — it's heavy and doesn't fit well in the VW. We do carry a bar made by Estwing, called a "Gad-Pry", which is small, light, and useful.




Shovels: the best rockhound shovel we've ever seen was constructed of a tubular magnesium alloy; it was light, strong, and collapsible. Unfortunately, the manufacturer is now out of business. So your best bet is a

short wooden-handled garden variety spade. Flat-tipped shovels just don't handle rocks well, and long handled shovels are cumbersome and easy to break. We carry an army-surplus folding pick/shovel. For anything more than light digging, it is a back-breaker.

Screens: for separating what you want from what you don't want, especially when what you don't want is mud. Very useful for sampling an area to find the best spot for further digging. Select a mesh size slightly smaller than the smallest size specimen you consider worth keeping. We use a 5/8 inch mesh screen mounted in a 1 foot square wood frame.

Probes: we sometimes use a long thin steel rod to help us locate large rocks underground, but until someone invents a probe which can differentiate between agates and "junkite", the probe will usually be left at home.

Small tools: we carry an assortment of cultivators, old screwdriver blades and spoons for cleaning out crystal pockets. You can probably find something around the house that will function equally well.

Center: faceted goshenite, Railway Dike. Clockwise from top: red and yellow jasper, Adna; chrysocolla, Skamania Mines; carnelian, Pigeon Springs; red and white banded agate, Kalama;

LEGEND

paved road

dirt or gravelled road

railroad

trail

power lines

fenced area

shaft

adit – long axis points in direction of tunnel

bridge

cliff

talus slope

diggings—holes or pits in open country

in areas where diggings are in road cuts, banks, etc., X designates the diggings

4-way intersection

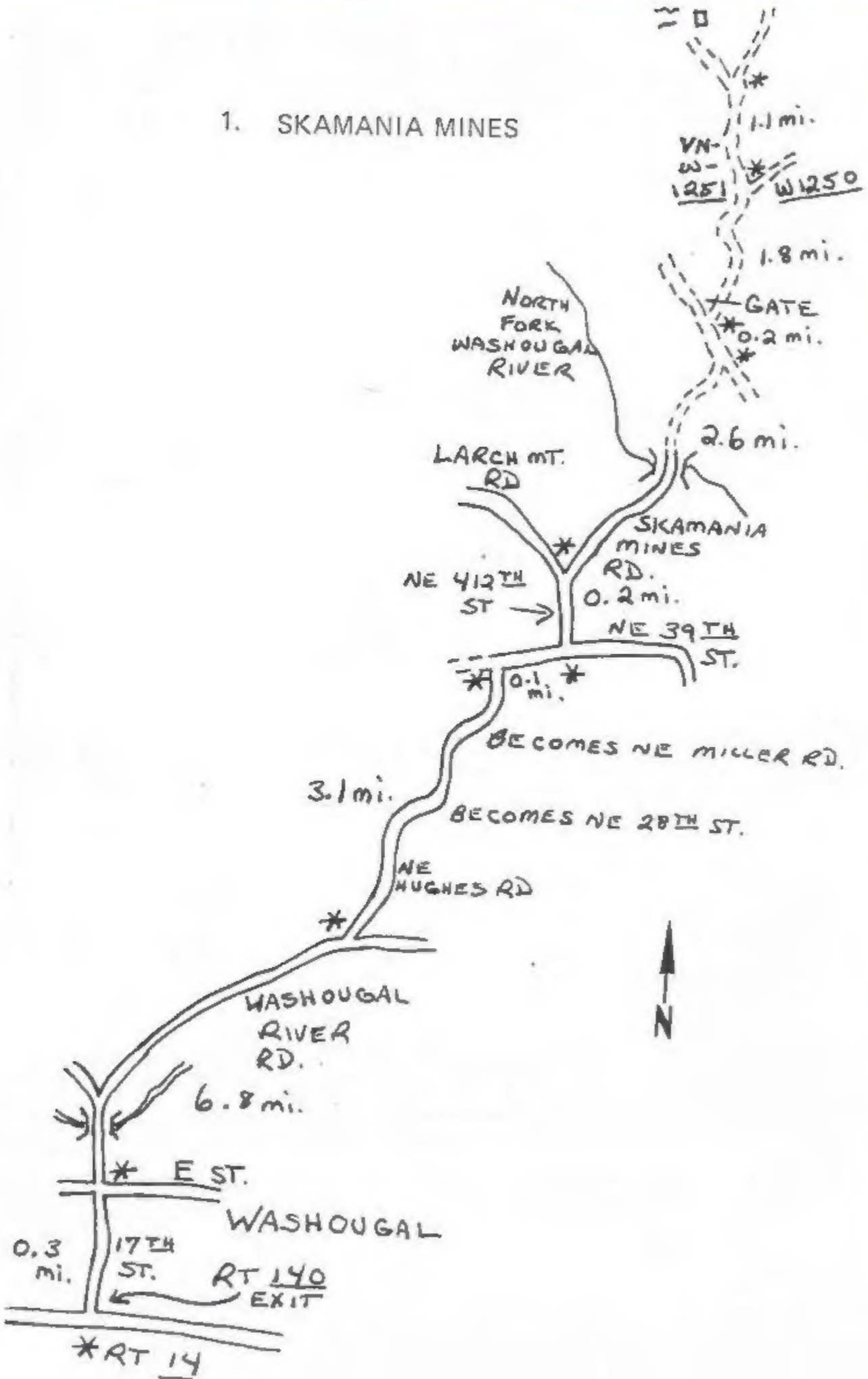
city or town

highway numbers underlined 505 forest road numbers boxed 505

Mileage indicators: from asterisk (*) to asterisk, by the route shown. To make maps easier to orient with state maps, we have included approximate mileages to major towns and cities, (i.e., TO SPOKANE ~ 21 miles). ~ means "about" or "approximately". We have found it impossible to give accurate mileages to cities because of changing city limits, etc. Asterisks placed on any side of an intersection indicate mileage from that intersection.

In underpass-overpass situations, the solid line indicates the uppermost road.

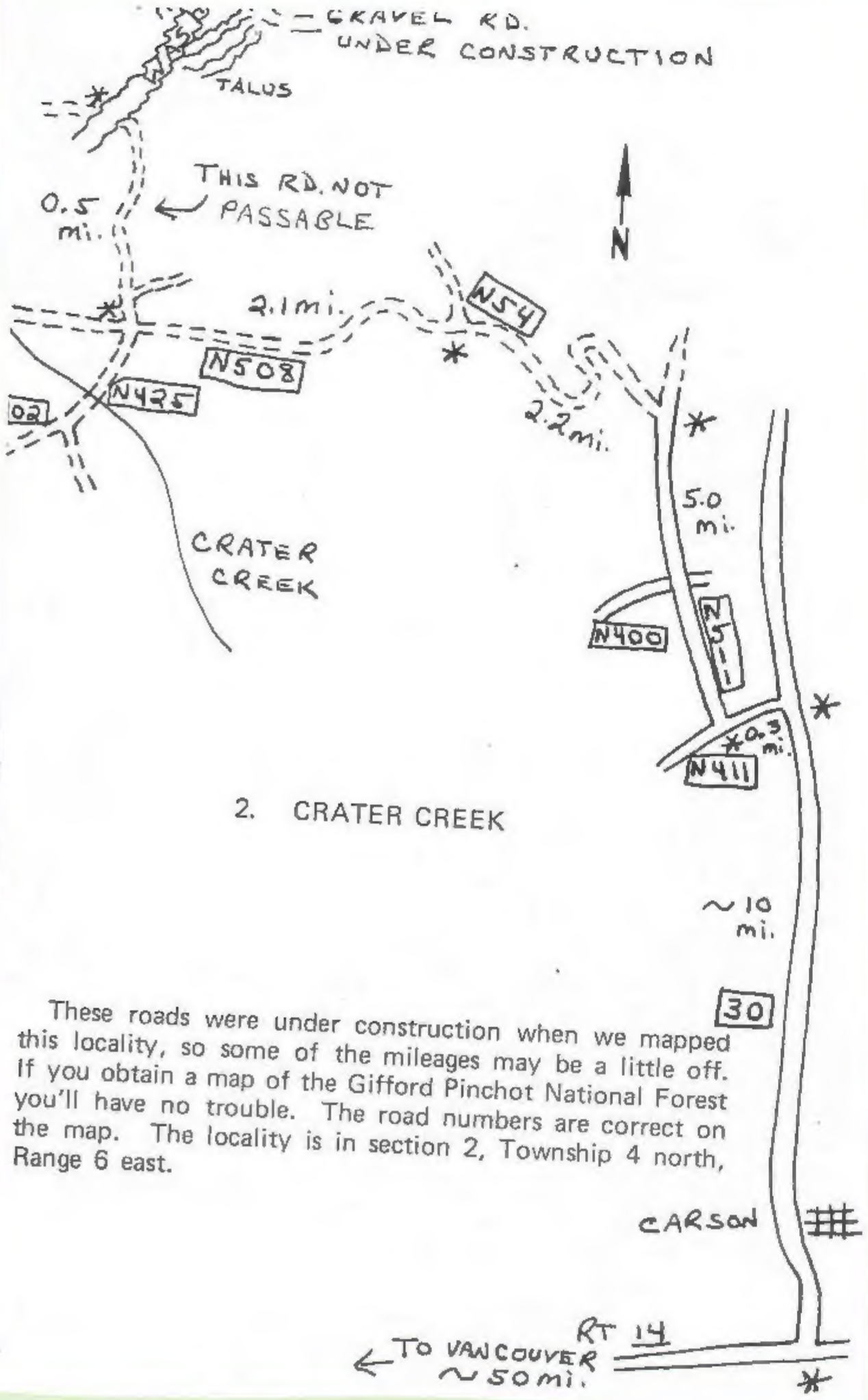
1. SKAMANIA MINES




## 1. SKAMANIA MINES

MINERALS: CHRYSOCOLLA (lapidary quality), MALACHITE (tiny crystals and aggregates), QUARTZ, BORNITE, cuprite, native copper.

This is our favorite Washington copper locality. The specimens are not big, don't expect to cut 30 x 40 mm cabs of pure chrysocolla, but how many people do you know who have ANY cabs cut from Washington chrysocolla or malachite? Some of the small quartz crystal vugs with malachite needles are spectacular. There is more of this material at a smaller mine at the end of VN-W-1251. There is an open shaft and adit on this property — please watch your children.




2. CRATER CREEK

These roads were under construction when we mapped this locality, so some of the mileages may be a little off. If you obtain a map of the Gifford Pinchot National Forest you'll have no trouble. The road numbers are correct on the map. The locality is in section 2, Township 4 north, Range 6 east.

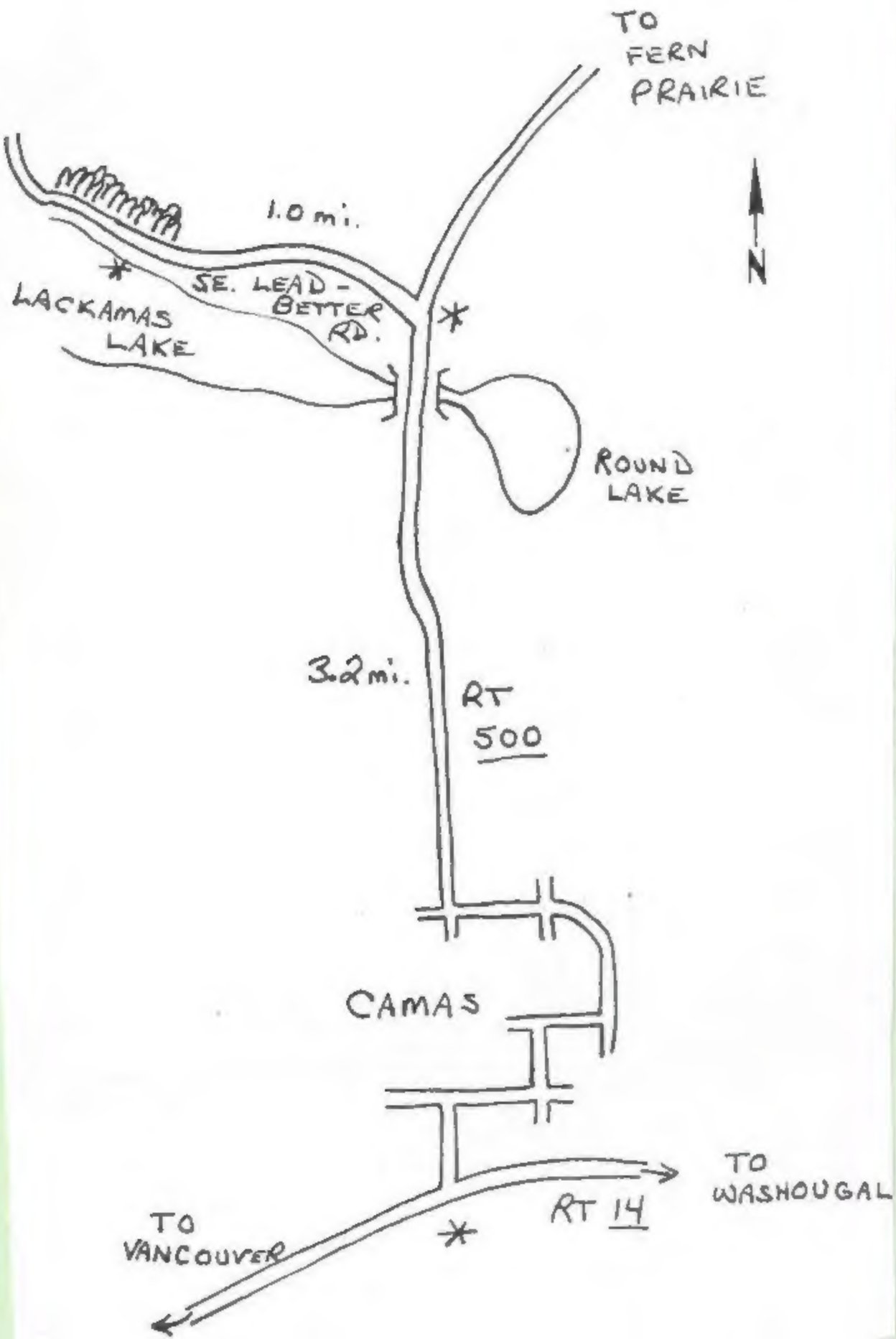
## 2. CRATER CREEK

MINERALS: AGATE (blue, banded, moss), QUARTZ, CALCITE (crystals filling geodes)

This locality has blue agate similar to that from the Teanaway region. We had no trouble collecting ½ pound pieces of light blue and blue and white banded material in the wash. We found darker blue nodules (largest 2 inches) in the talus and several geodes of light blue agate under drusy quartz and calcite crystals in the basalt outcrop at the top of the talus. This locality is not very large, and the wash is quite steep.

Bring a small sledge and gad for knocking the geodes out of the cliff. If you just plan to hunt in the wash or talus, all you'll need is a bucket for your specimens.

3. LACKAMAS LAKE

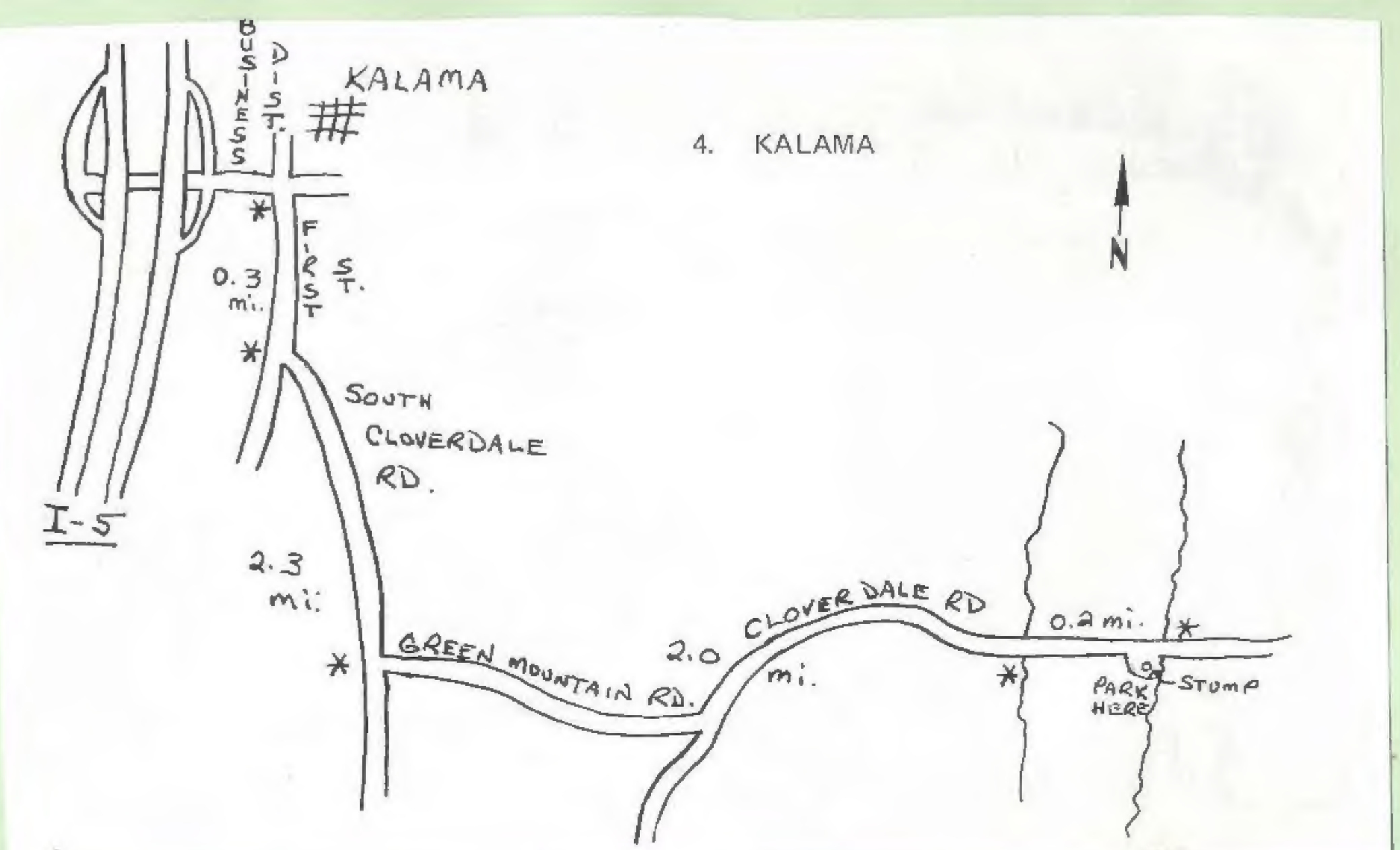



## 3. LACKAMAS LAKE

MINERALS: NATROLITE, STILBITE, CALCITE, CHABAZITE, all crystalline.

Hunt in road cuts across the road from Lackamas Lake. There is plenty of parking along the lake. Rt. 500 winds around quite a bit in Camas, just follow the signs so that you're on Rt. 500 west when you get on the north side of town. The mileage is 3.2 miles from the Rt. 500 exit on Rt. 14 to Leadbetter Road.

The surface minerals are apt to be weathered, but nice glassy crystals can be found by going into the rock a bit. The basalt is quite fractured, so you shouldn't need a big bar. Please don't knock rocks into the road.

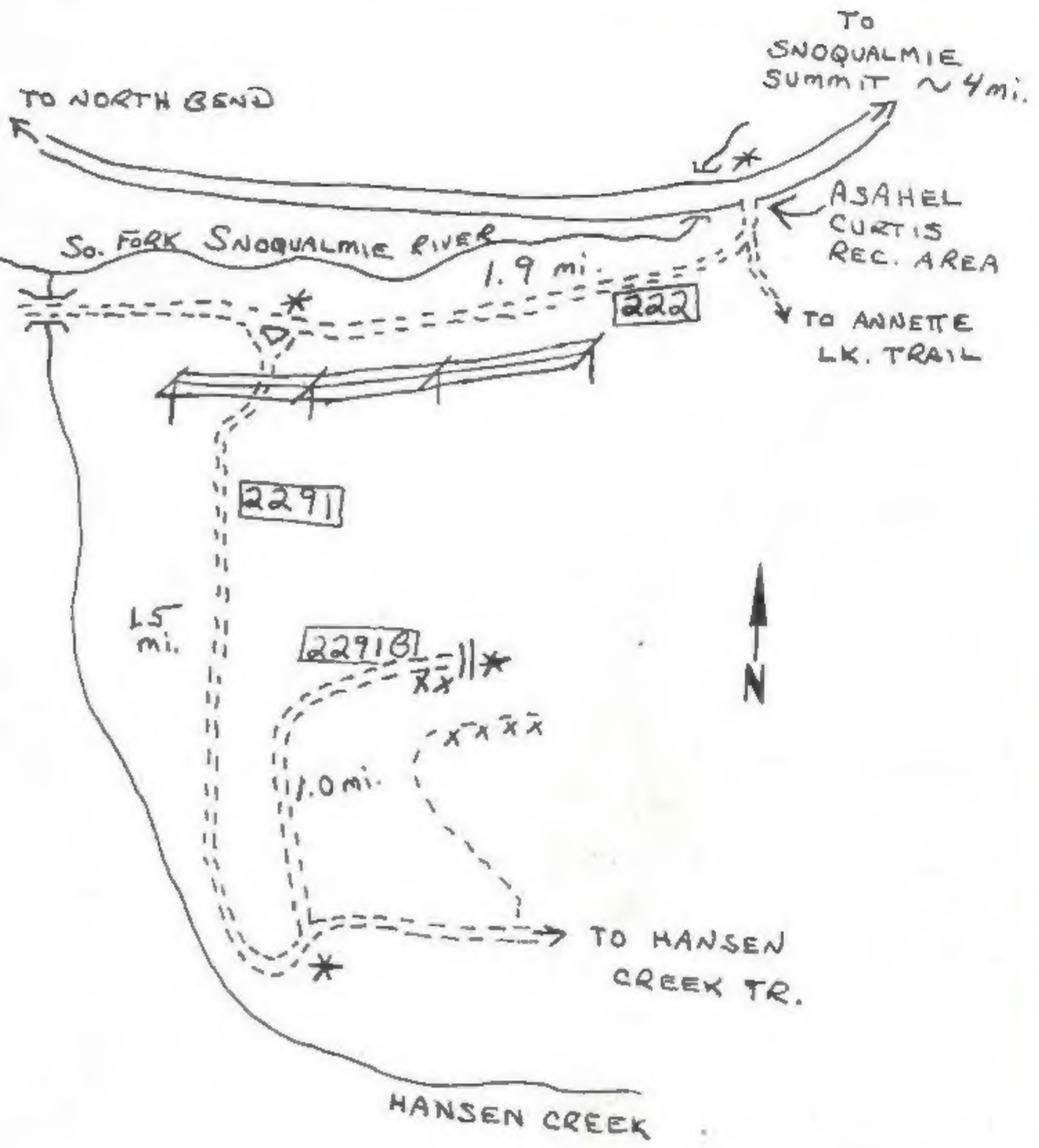



4. KALAMA

## 4. KALAMA

MINERALS: AGATE (carnelian, fortification, moss, brecciated), QUARTZ

Dig anywhere in the vicinity of the streams. We've had better luck at the easternmost one. The agate nodules are weathering out of grey clay, which underlies the area at a depth of 1 to 2 feet. Areas of undisturbed topsoil contain deposits of agate concentrated by erosion. Of course, many of the nodules in the soil are broken. This area doesn't look like a battleground (yet) as Pigeon Springs and Adna do. Please be aware of the ecological results of your digging -- re-fill the holes, and don't pollute the streams.




5. HANSEN CREEK

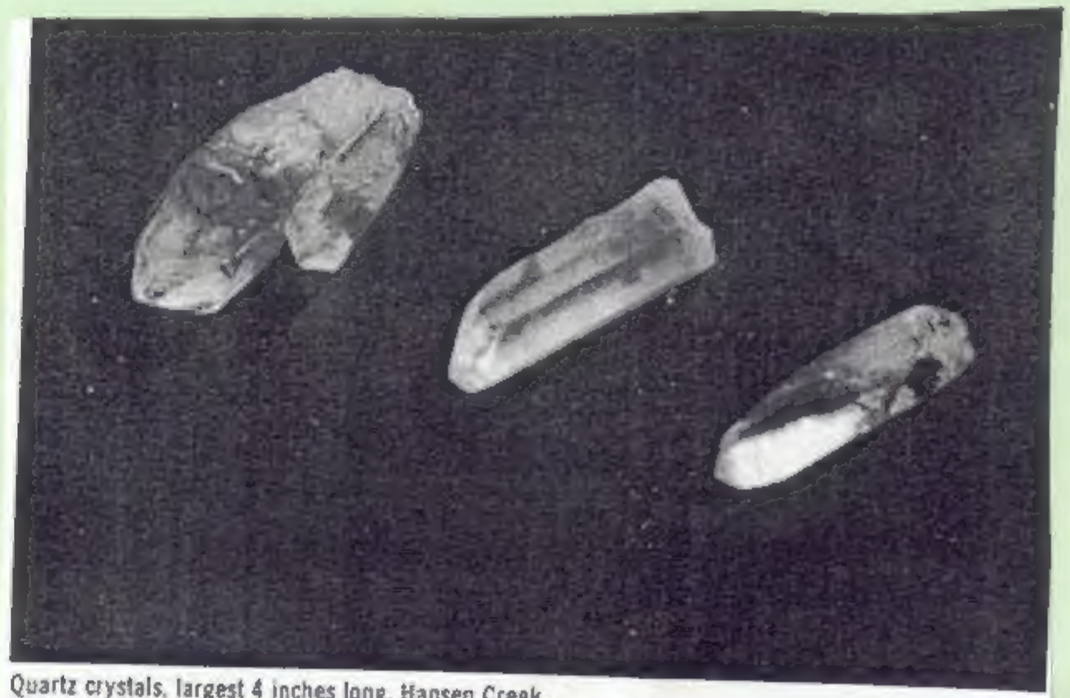
## 5. HANSEN CREEK

MINERALS: QUARTZ (rock crystal and amethyst sceptors), LIMONITE (pseudomorphic after pyrite)

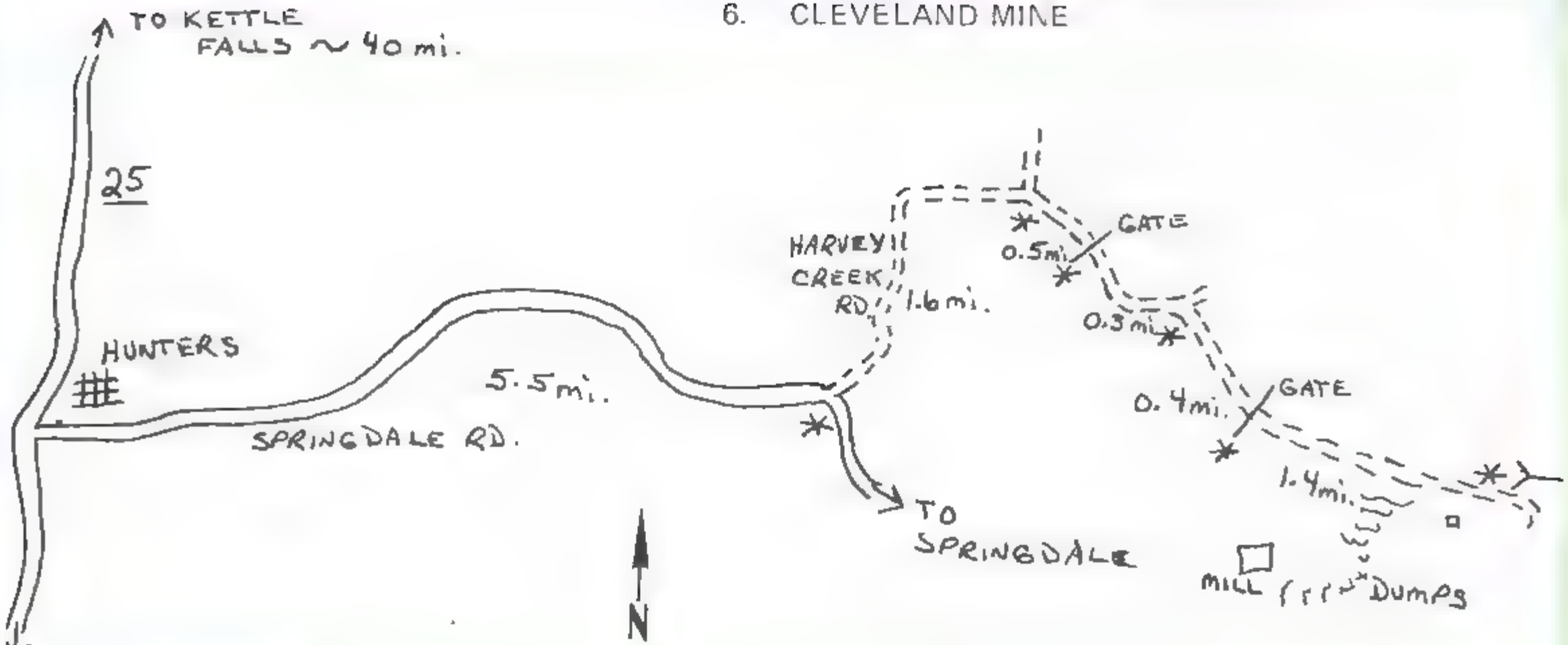
Let us preface this by saying we have seen more beautiful material from Hansen Creek than we have found. We've found quartz crystals of all sizes (up to 4 inches), all shapes, both singly and in clusters. We have never found what the locality is most famous for – amethyst sceptors. Of course, if they weren't so rare, we wouldn't prize them so highly.

The locality is being dug on two levels, where it has been cut by two logging roads. The lower road, the route shown on the map, is fairly new. Dig in the bank 1.0 mile from the junction of roads 2291 and 2291B. The upper road is directly above this spot, and you can climb through the clear cut to it – about 300 yards up a 25 degree slope. Or you can walk up this road from the junction of it and road 2291, where it is blocked by fallen trees. This road is indicated as a trail on the map.

We have found the largest single crystals at the lower area, but more clusters are found at the top. Find a comfortable spot to dig, and start moving the rocks out of your way. Screen the dirt between the rocks for loose crystals. We used hammers, gads, gad-pry, and screen.



Quartz crystals, largest 4 inches long. Hansen Creek.

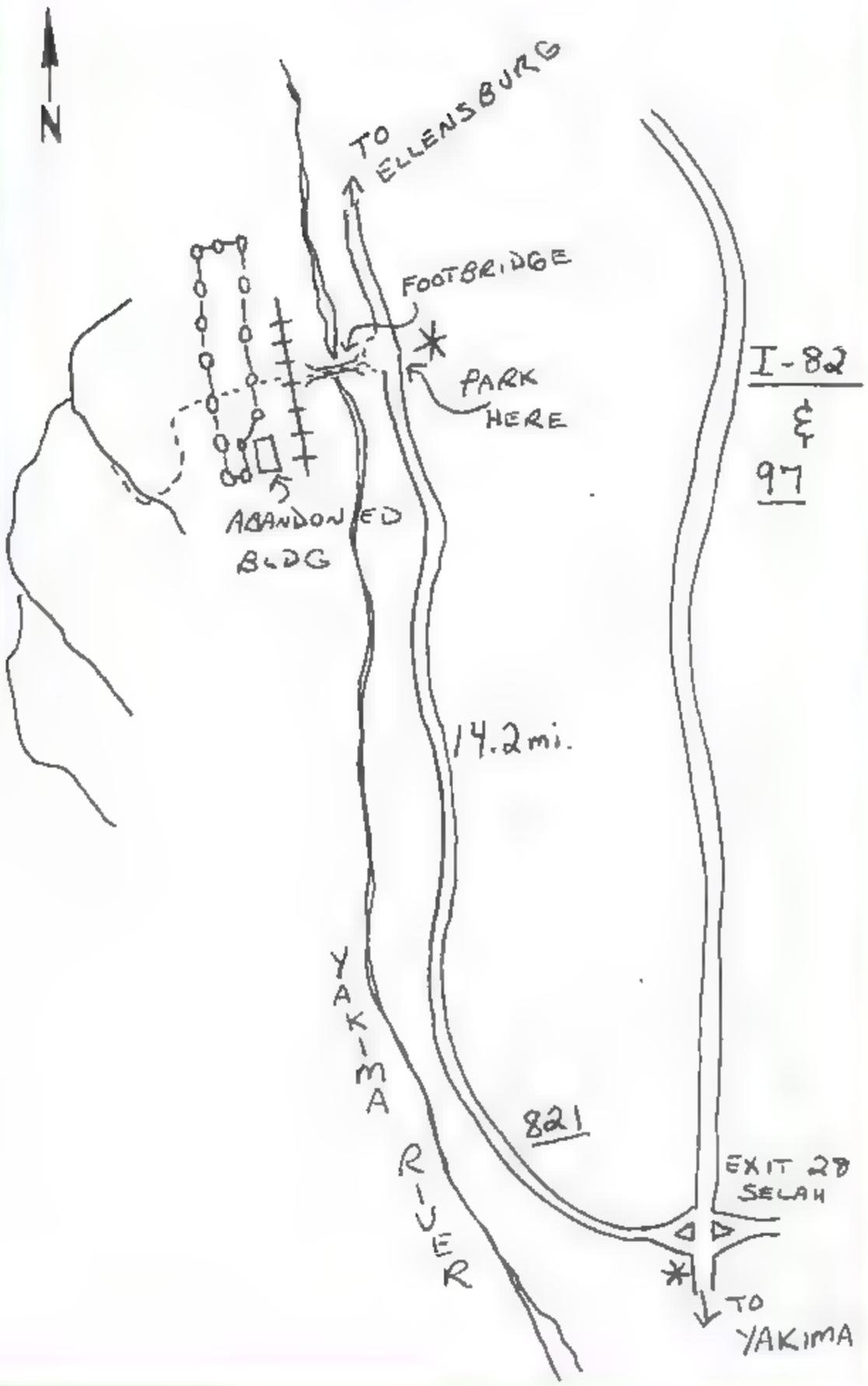



## 6. CLEVELAND MINE

MINERALS: QUARTZ, PYRITE, GALENA, CALCITE, SPHALERITE, Mimetite, Hemimorphite

This locality is best known for its mimetite and hemimorphite. We've seen fine specimens of both, but didn't find any. We did come up with a quartz crystal vug with lusterous 1/8 inch sphalerites. About the only tool you'll need is a hammer and chisel – you hunt in the tailings pile. There is an open adit on this property.

7. YAKIMA CANYON

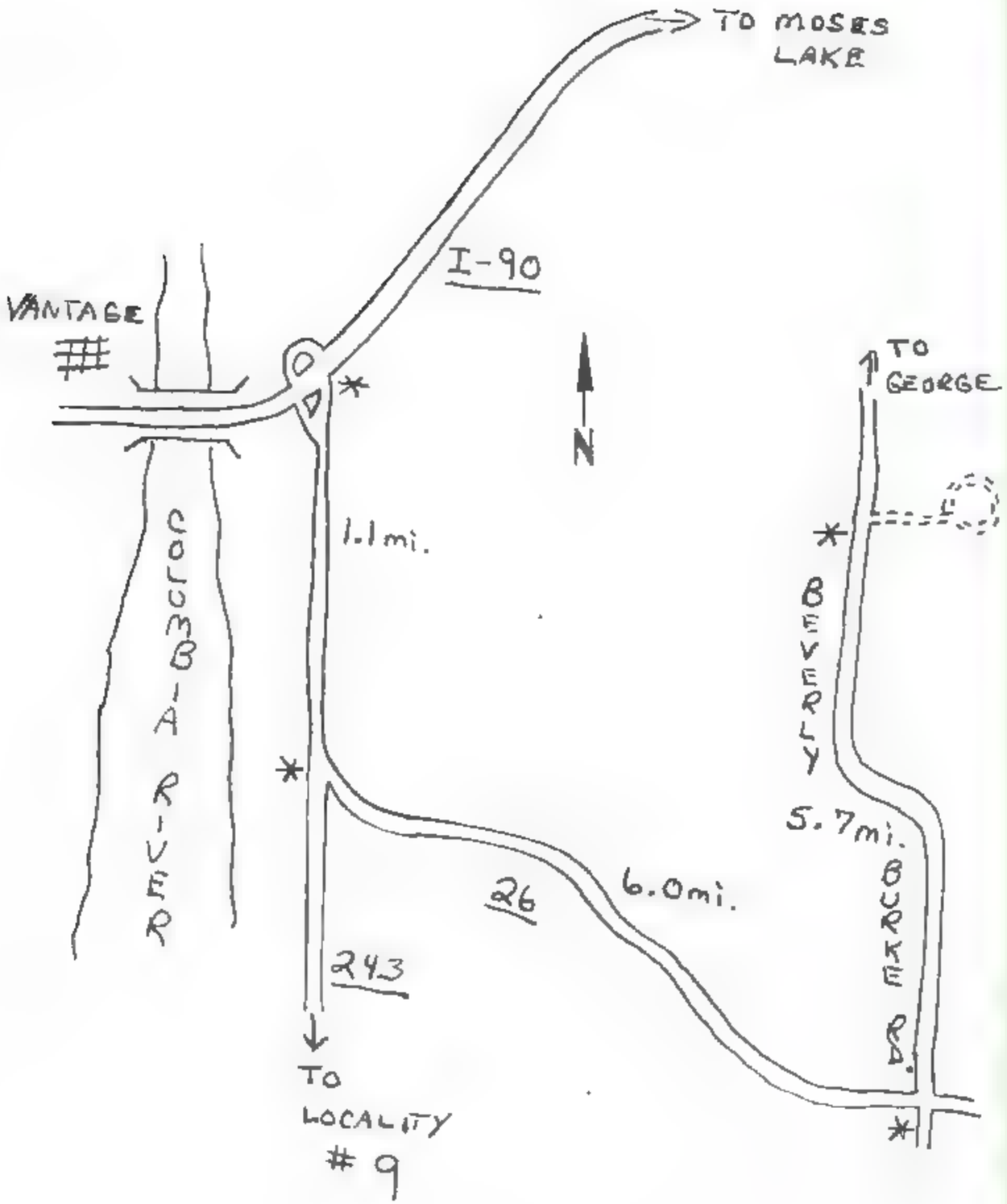



## 7. YAKIMA CANYON

MINERALS: PETRIFIED WOOD

This locality is on Rt. 821, also called Canyon Rd. This is the old 97, Rt. 97 now follows the interstate. Follow the path from the road, across the footbridge and railroad tracks, through the field, and up the bank west of the fence. The path goes to your left (south), then into a draw behind the hill nearest the field. There was once a road in this draw, follow its track to a left hand curve (about ¼ mile). There are diggings on the hill to your right (northeast).

Looking west across the footbridge at Yakima Canyon





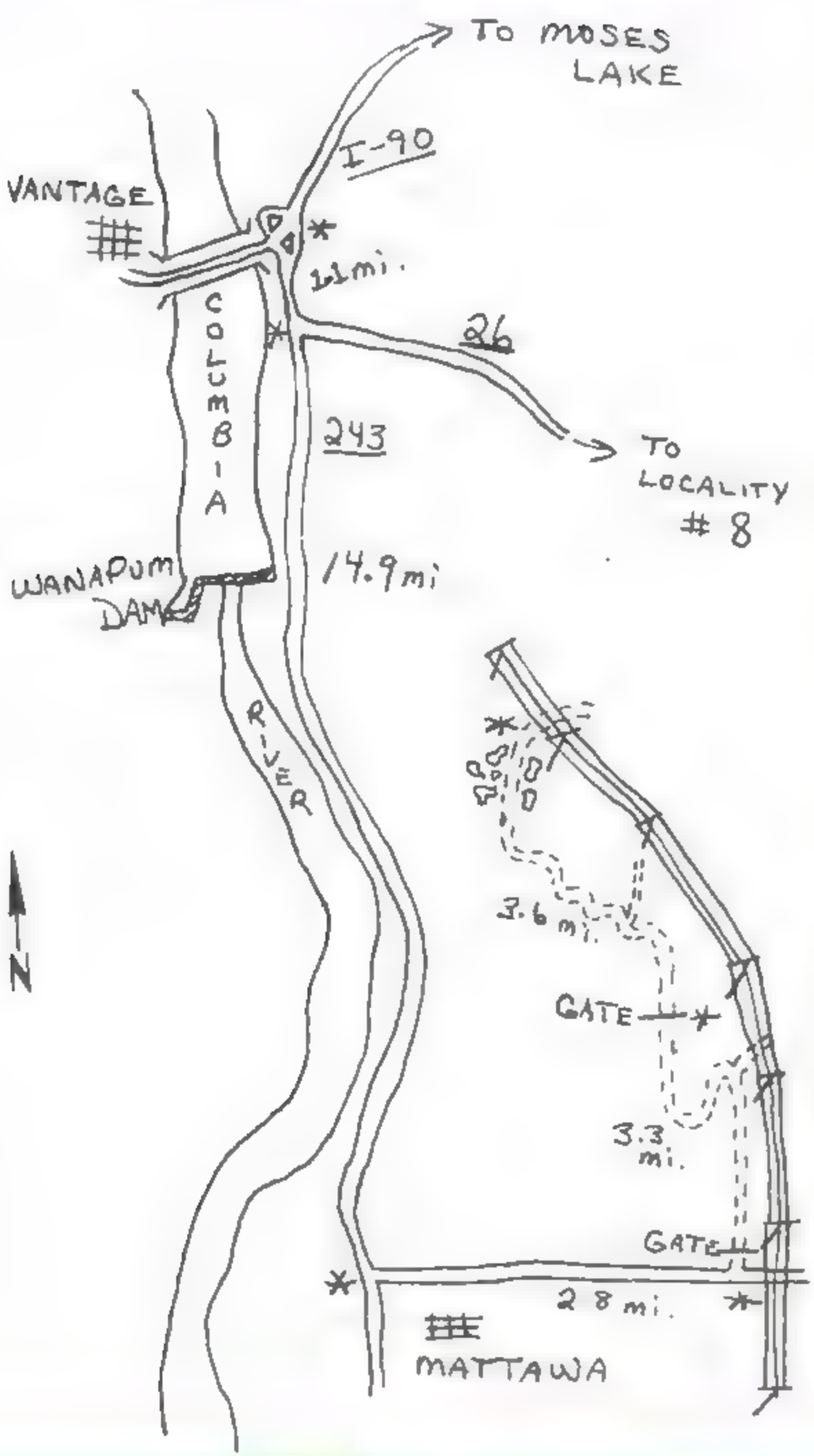

## 8. DIATOM PITS

### MINERALS: OPALIZED WOOD

If you have ever considered the terms "petrified or silicified" and "opalized" wood to be synonymous, five minutes at this locality should convince you that opalized wood is excitingly different. The colors are pastels, and blend into each other. We have heard people say that all this wood is too francured for lapidary work - it simply isn't true. We have several 30 x 40 mm cabs to back up our statement!

It is 3/10 mile from Beverly-Burke Road to the pits; you can see them from the road. Also the road to the pits is white, you can't miss it. The owners are gracious enough to permit rockhounds on their property on weekends, so please leave their mining equipment alone. You won't need any tools here, wood is everywhere!

9. SADDLE MOUNTAIN




## 9. SADDLE MOUNTAIN

MINERALS: PETRIFIED WOOD

Saddle Mountain is generally accepted as the best wood locality in Washington. Certainly the "picture wood" from here is unsurpassed elsewhere. The diggings are 6.9 miles from where you turn off the Mattawa road. You go in under the power lines, 3.3 miles to a gate, then the road goes left (west) of the power lines. The road eventually swings back around to under the power lines. The diggings are directly beneath the lines. This may all sound complicated, but it's really not — just stay on the main road. There are only one or two places where you could possibly confuse which road is the main one, and at each of these you bear left.

East of the diggings on top of the hill is a commercial claim held by Bob Menser. No collecting is permitted there.

Looking south from the diggings at Saddle Mountain

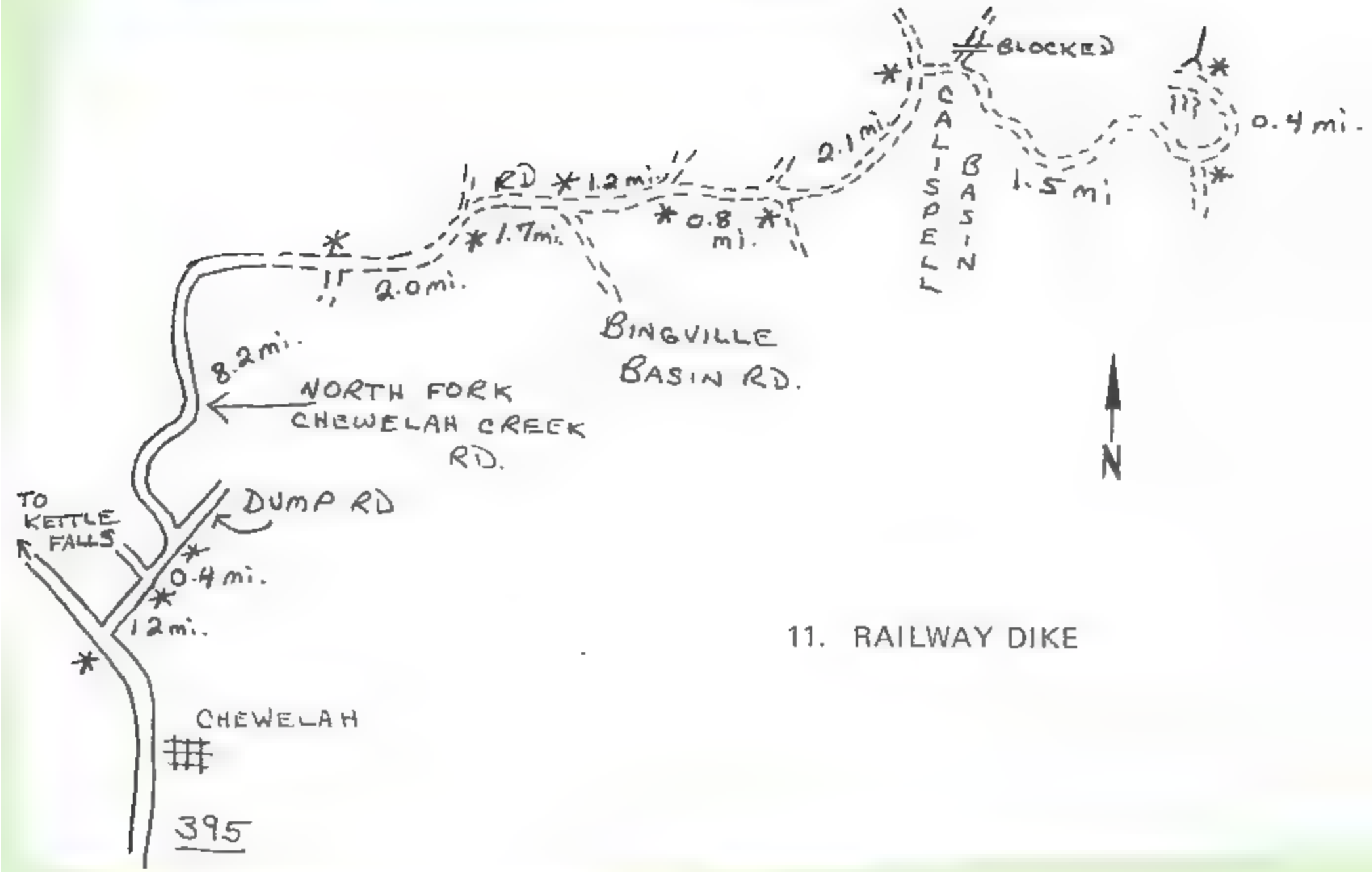
## 10. RED TOP MOUNTAIN

MINERALS: AGATE (blue, pink), QUARTZ, CALCITE

10A: These are the original Red Top agate beds. Take the lower trail out of the parking lot (the upper trail goes to the lookout) for one mile. For the last half mile you'll be walking through diggings. Best bet: walk north to an area where you can dig in the undisturbed dirt. All rocks you dig up will be covered with earthy red dirt; select agates by shape (round or oval).

10B: This area produces less agate nodules, more hollow crystal lined geodes. We found three six-inchers in an hour the last time we were there. Hunt in the talus, or bring a sledge and pry bar to tackle the outcrops.

10C: Walk west along the trail that starts near the junction of roads 2106 and 2106H about ¼ mile to the base of a steep cliff. Chisel the rock and agate out of the cliff (softer rock than locality 10A) or hunt in the talus below. Nice brecciated blue and vein blue agates and small geodes are found here.



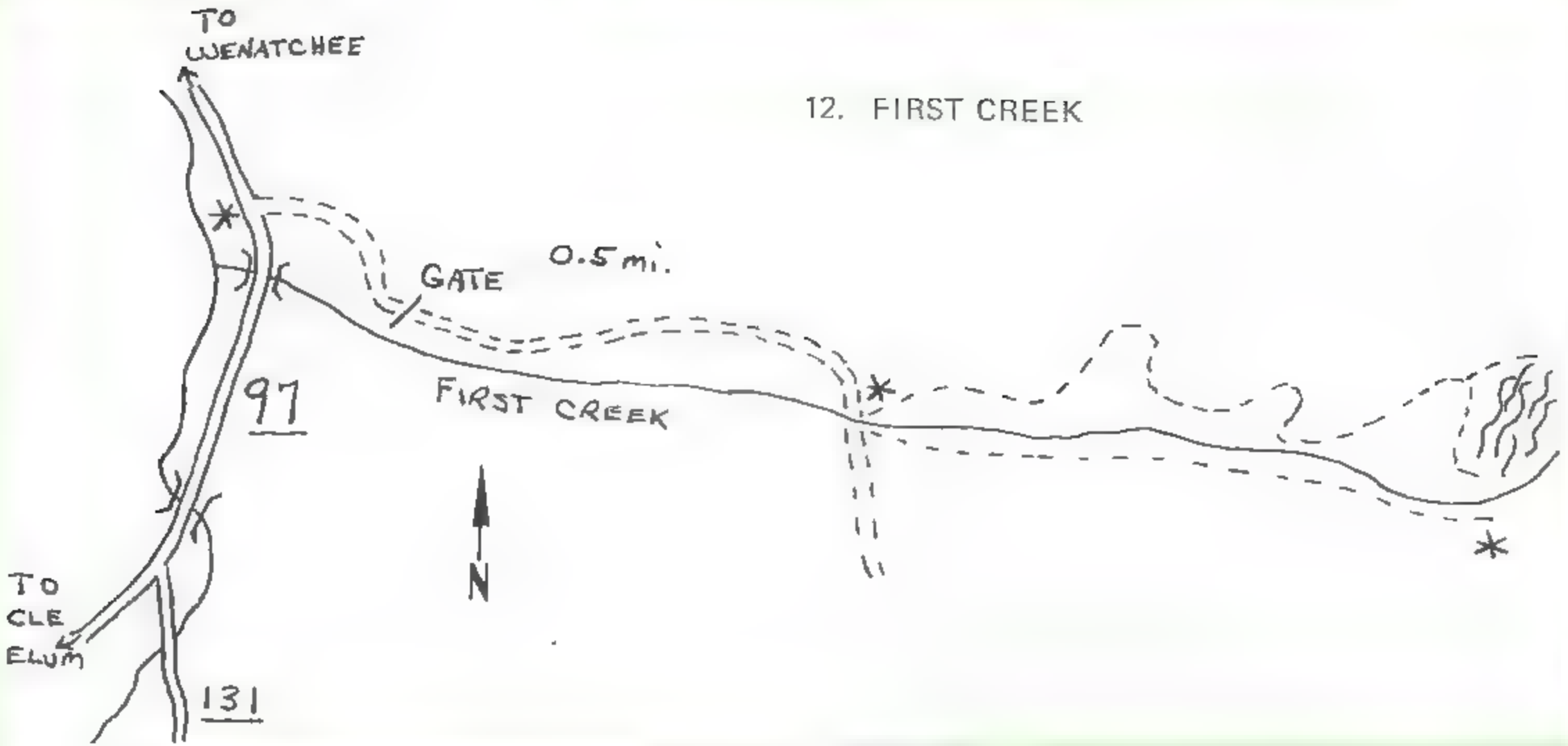

11. RAILWAY DIKE

11. RAILWAY DIKE

MINERALS: BERYL, GARNET, MICA, FELDSPAR

The miners here traced a pegmatite dike underground. The dump is quite large for a mine of this type; if you're a dedicated digger, you might turn up quite a few more minerals than are listed here. The beryl comes in white, green, and clear (goshenite). We found one small piece of facetable goshenite, the rest of our beryl finds were not of cutting quality. The best spot for beryl quantity wise is a dump and outcrop below and east of the main dump.

At Calispell Basin there is an old road which parallels the North Fork Rd., just a few hundred feet to the east. This road eventually rejoins North Fork Rd. beyond the Basin turnoff. Be sure you get on the road that continues east.



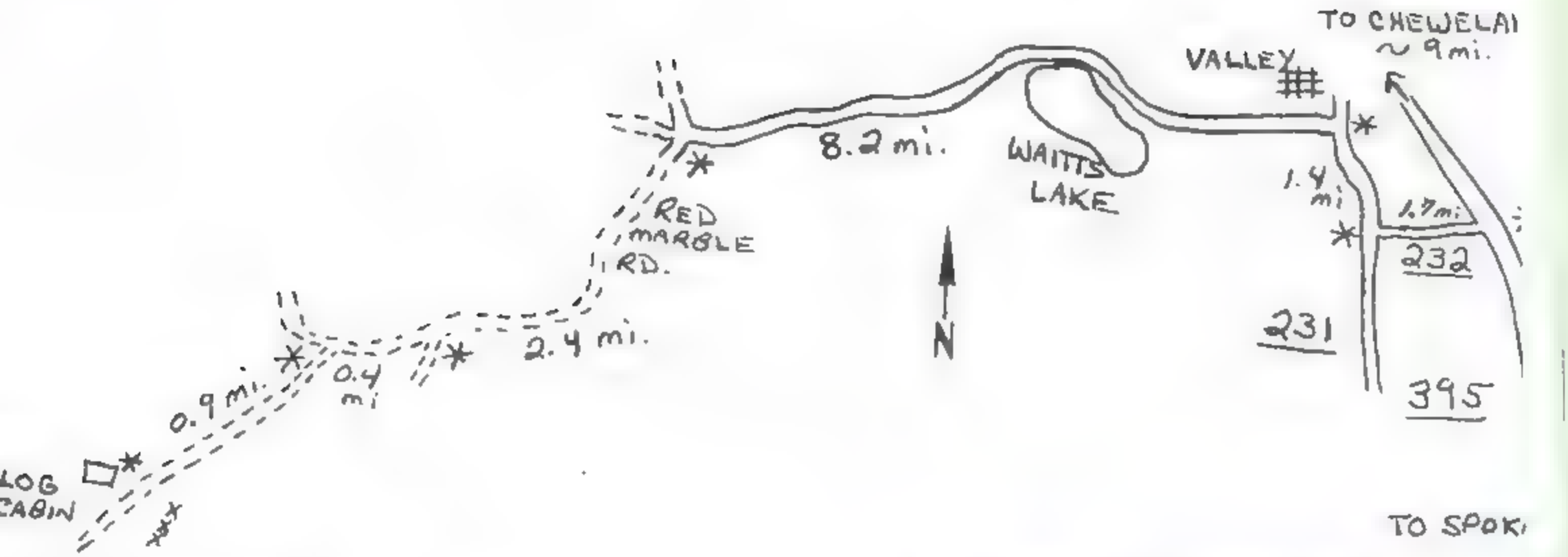

## 12. FIRST CREEK

MINERALS: AGATE (blue), QUARTZ.

The locality is 4/10 mile from where the trail begins (where the dirt road crosses First Creek), measured along the south side of the creek. The trail on the north side of the creek is quite steep in places and harder to follow.

This locality is not as prolific as Red Top, but fine material has been found here. We found a five pound piece of mossy blue agate enclosing a quartz vein. You might try this locality after a hot day at Red Top – you can hunt agate and cool your feet at the same time!

The road to the locality is about 100 yards north of where First Creek crosses Rt. 97.




13. CARDINAL DUMP

## MINERALS: AZURITE AND MALACHITE IN BARITE

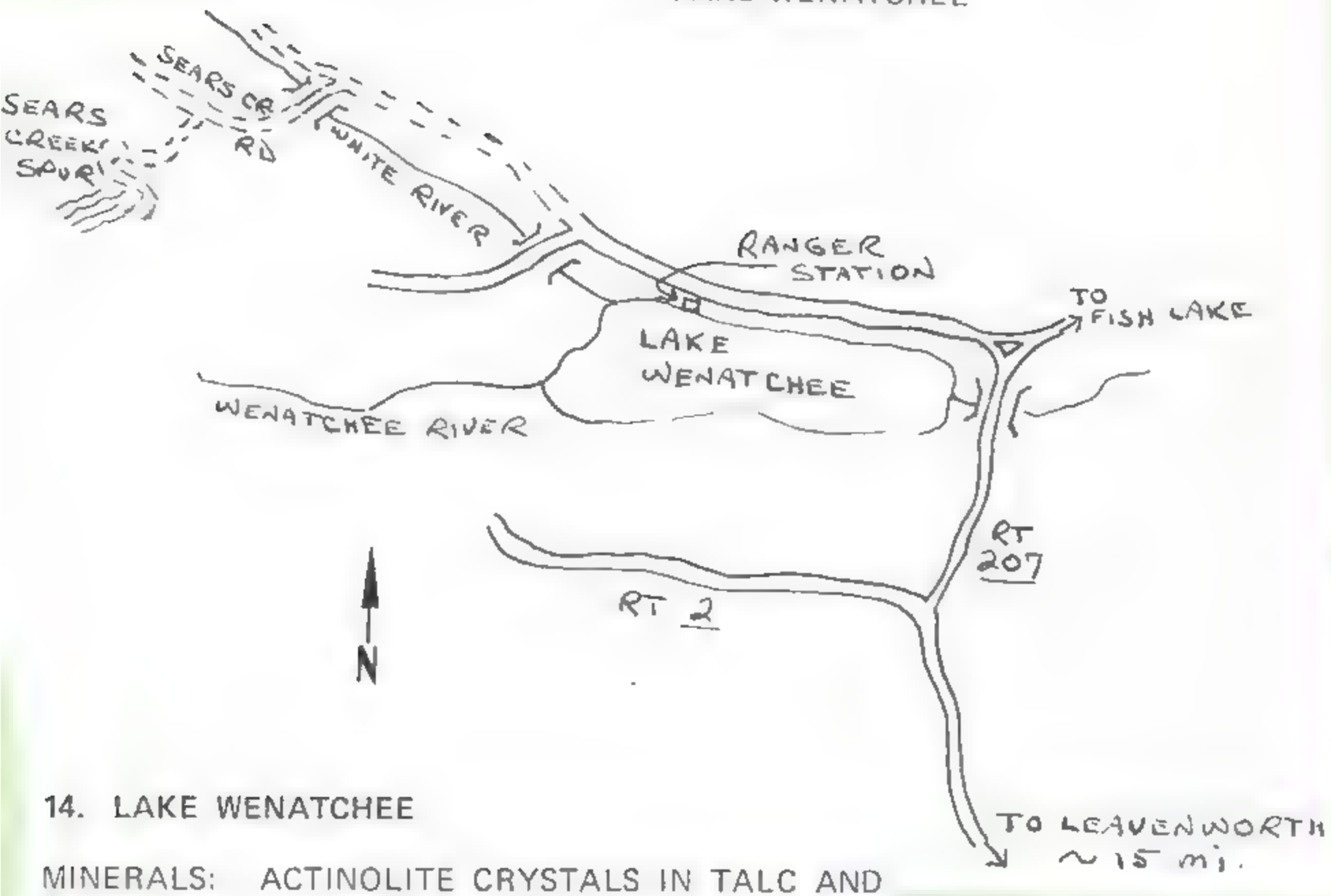
It is only after much consideration that we have decided to include this locality. If you are a strict crystal collector, this place is not for you. However, if you will be happy with something not spectacular but pretty, you might give it a try. We would like to call this the "Cardinal Mine", which is what we set out to find, but after a day of unsuccessful hiking and searching, the mine proved elusive. On our way out of the area, we passed this locality, where some rock had been dumped. There were no signs, the shack is abandoned, the rock appears to have been there quite awhile. Since it contains exactly the minerals which our reference listed for the Cardinal Mine, we feel reasonably sure this was its origin.

The azurite and malachite have crystallized in seams in the barite. Not having many voids to grow in, the crystals are mostly two-dimensional flattened radiating clusters. Picture green and blue starbursts on a cream background. We think it's very pretty stuff.

We will try to put the exact location of the Cardinal Mine and more information in Volume III.

Looking north from meadow, rock piles in right foreground, at Cardinal Dump

14. LAKE WENATCHEE




14. LAKE WENATCHEE

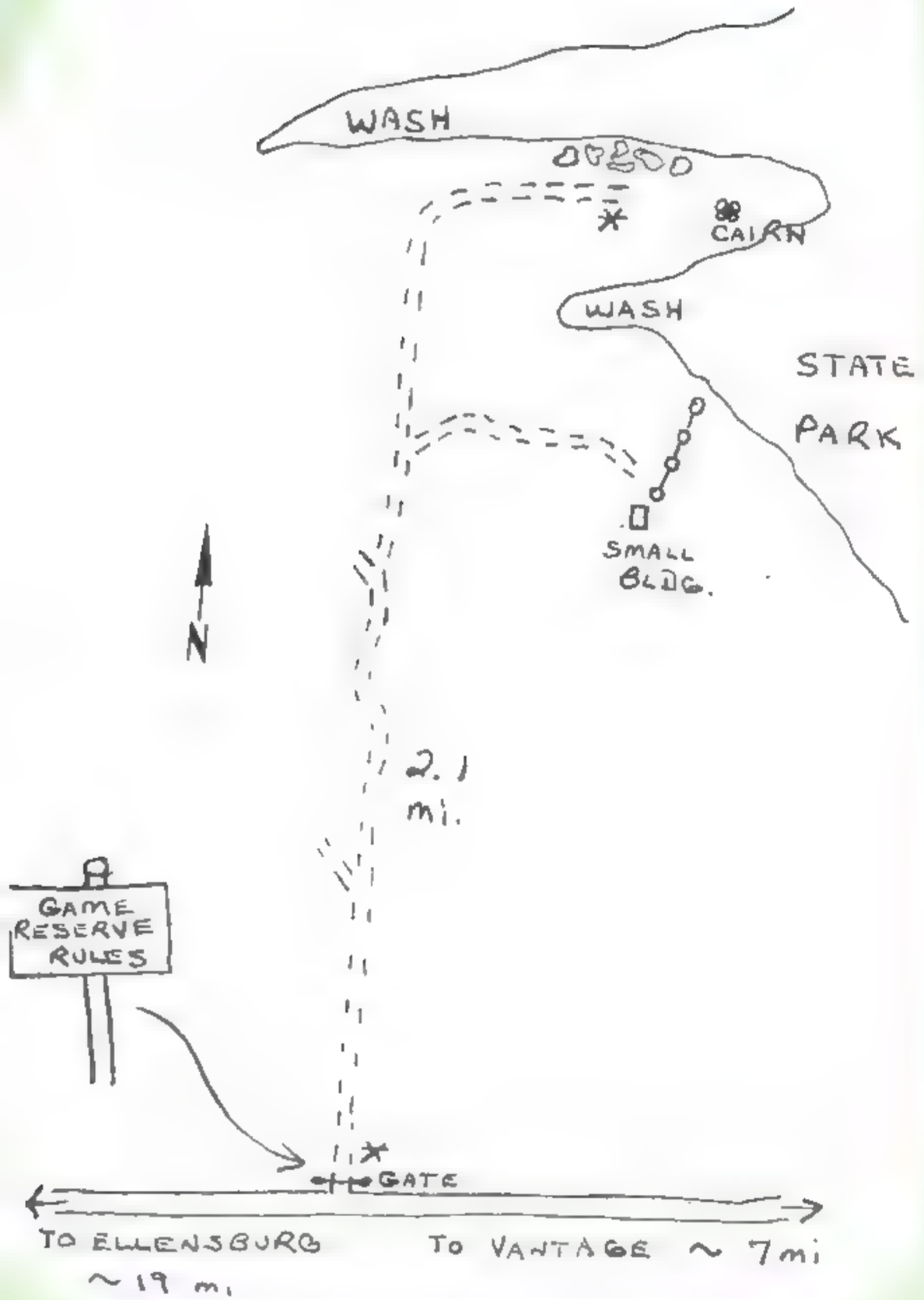
MINERALS: ACTINOLITE CRYSTALS IN TALC AND MICA.

This map was prepared for us by a friend and does not show mileage. The lack of mileage shouldn't hinder you, as you must stop at the ranger station for a permit anyway, and the ranger can give you more precise directions if necessary. You should be able to get there with the map alone, the forest roads are well signed.

You can only drive part way up Sears Creek Spur. The locality is along the road, about 2 miles from the parking area, in the cliffs and talus above a sharp curve. Not every boulder in the talus is actinolite, you'll have to hunt a bit. To properly display the actinolite, you'll have to clean away the mica and talc. You'll find this job a lot easier if you pound as little as possible on the specimen as you extract it. Actinolite is quite brittle.

The walk to the locality is fairly steep, so we usually carry as little equipment as we can get away with: small sledge, gad, and gad-pry.

15. VANTAGE




## 15. VANTAGE

MINERALS: PETRIFIED WOOD

This is one of the best localities for the black-tan-green-white colored wood. You will be digging on land adjoining Ginko State Park. Be sure to confine your efforts to the area west of the rock cairn, or you will be in the state park and subject to arrest.

The wood is in decomposing basalt. Stumps and large log sections are not uncommon. To extract the big pieces you'll need shovel, bar, hammers and gads. If you're happy to collect smaller pieces, no tools are needed, the wood is all over the ground.

## 23. ROOSEVELT

MINERALS: PETRIFIED WOOD

There is no map for this locality. All you need is your state map. Roosevelt is on Rt. 14 and the Columbia River, almost due south of Yakima. Drive along Rt. 14 east from Roosevelt to Alderdale. We have found wood in almost every wash in this 15 mile stretch of highway. Colors and quality vary greatly, but there is wood all over. Be careful to park well off the highway.

16. LUCAS CREEK

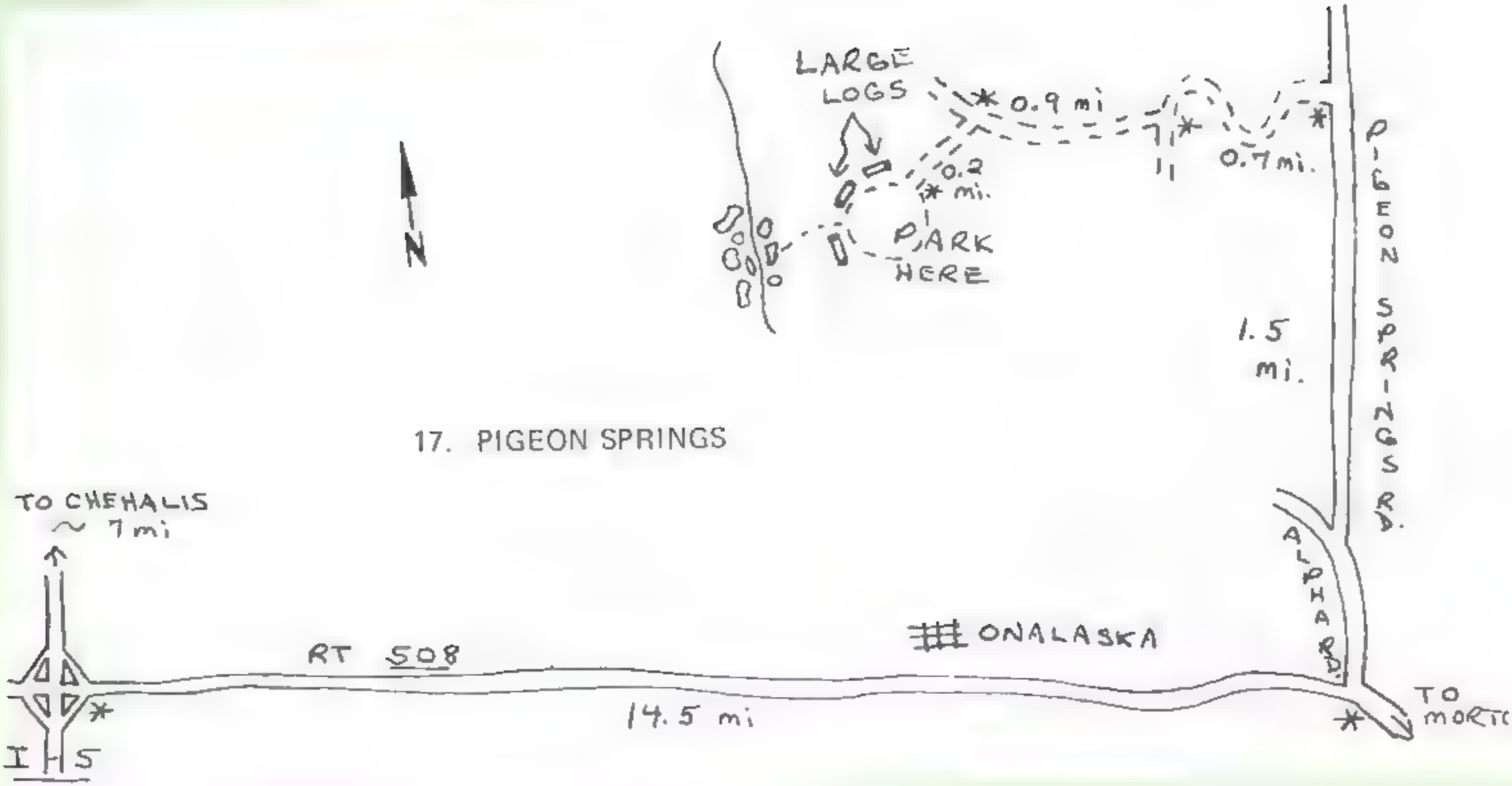
## 16. LUCAS CREEK

MINERALS: AGATE (carnelian, banded)

We include this locality because it is quite popular with many rockhounds we know, though personally we prefer Kalama and Pigeon Springs. We've found agate here, but neither in the quality or quantity of the other localities. Still, we've seen very beautiful material which other people have gotten here.

You can hunt in the stream, by screening the material of the banks, or you can take the trail to the diggings from the end of the road. We've had some luck at screening, but have never approached the "Carnelian in every shovelful" which is the rule at Kalama.

Napavine Road is about 200 yards east of the Onalaska Rt. 508 exit from I-5.

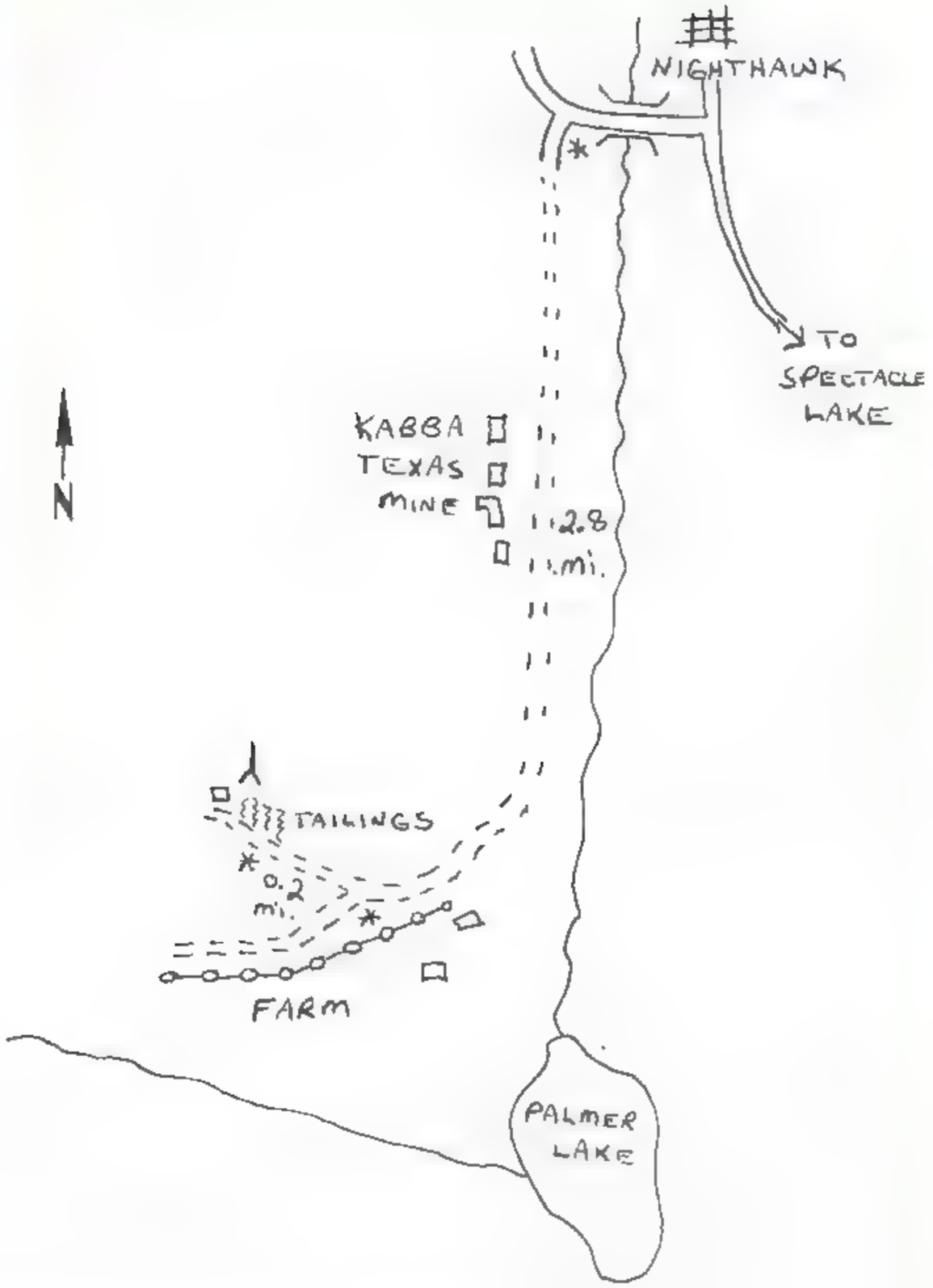



17. PIGEON SPRINGS

## 17. PIGEON SPRINGS

MINERALS: AGATE (carnelian, fortification, moss)

This locality has been worked for many years and is still producing fine agates. The diggings are along the stream at the bottom of the hill. The area is usually wet, so dress accordingly. Shovel, screen and buckets should be all that you need. The diggings are about 150 yards from the parking area.



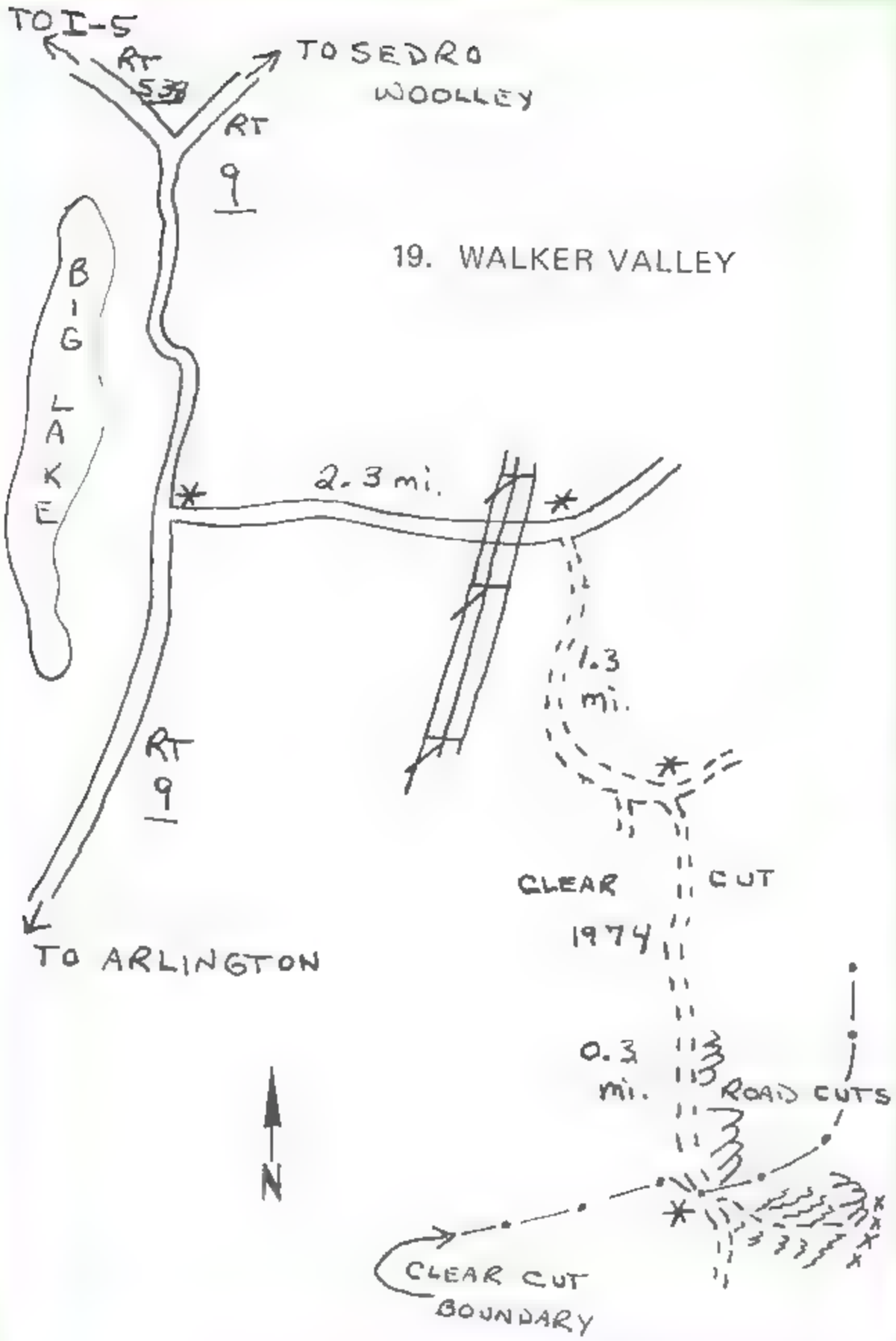

18. FOUR METALS MINE

MINERALS: QUARTZ, CHALCOPYRITE, GALENA, PYRITE, HEMATITE, CHRYSOCOLLA, Turquoise

This is an excellent locality for thumbnailers and micromounters. The chalcopyrite, pyrite, galena, and hematite all occur as small crystals in quartz vugs. We found drusy quartz over chrysocolla in a few vugs — pretty stuff. We have seen some thin veinlets of turquoise from this locality.

You'll be working on the tailings pile, so hammer and chisel will suffice for tools. We just broke anything with quartz showing; many of the seams opened into small vugs within the rock.

We got to Nighthawk through Loomis and Spectacle Lake, but it might be easier to come from Rt. 97 at Oroville.

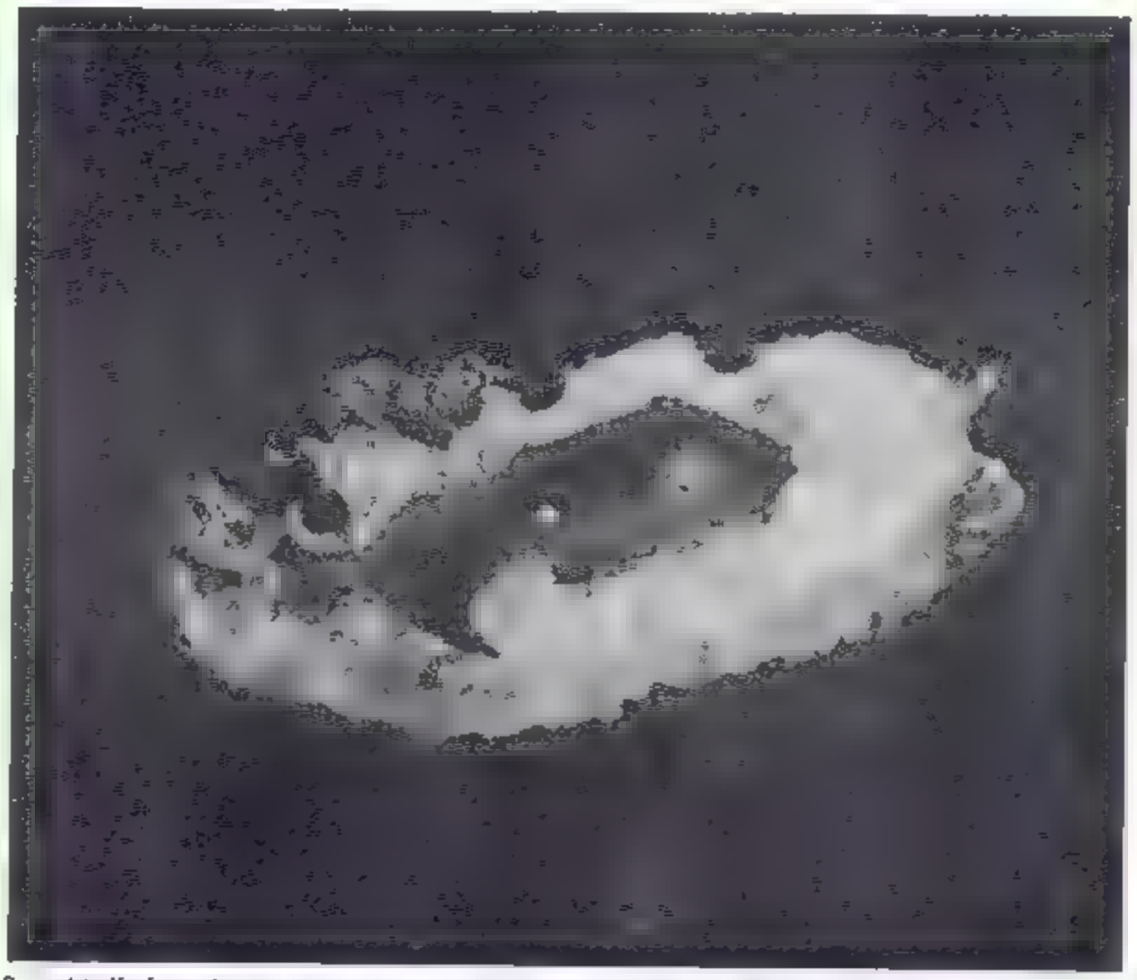



## 19. WALKER VALLEY

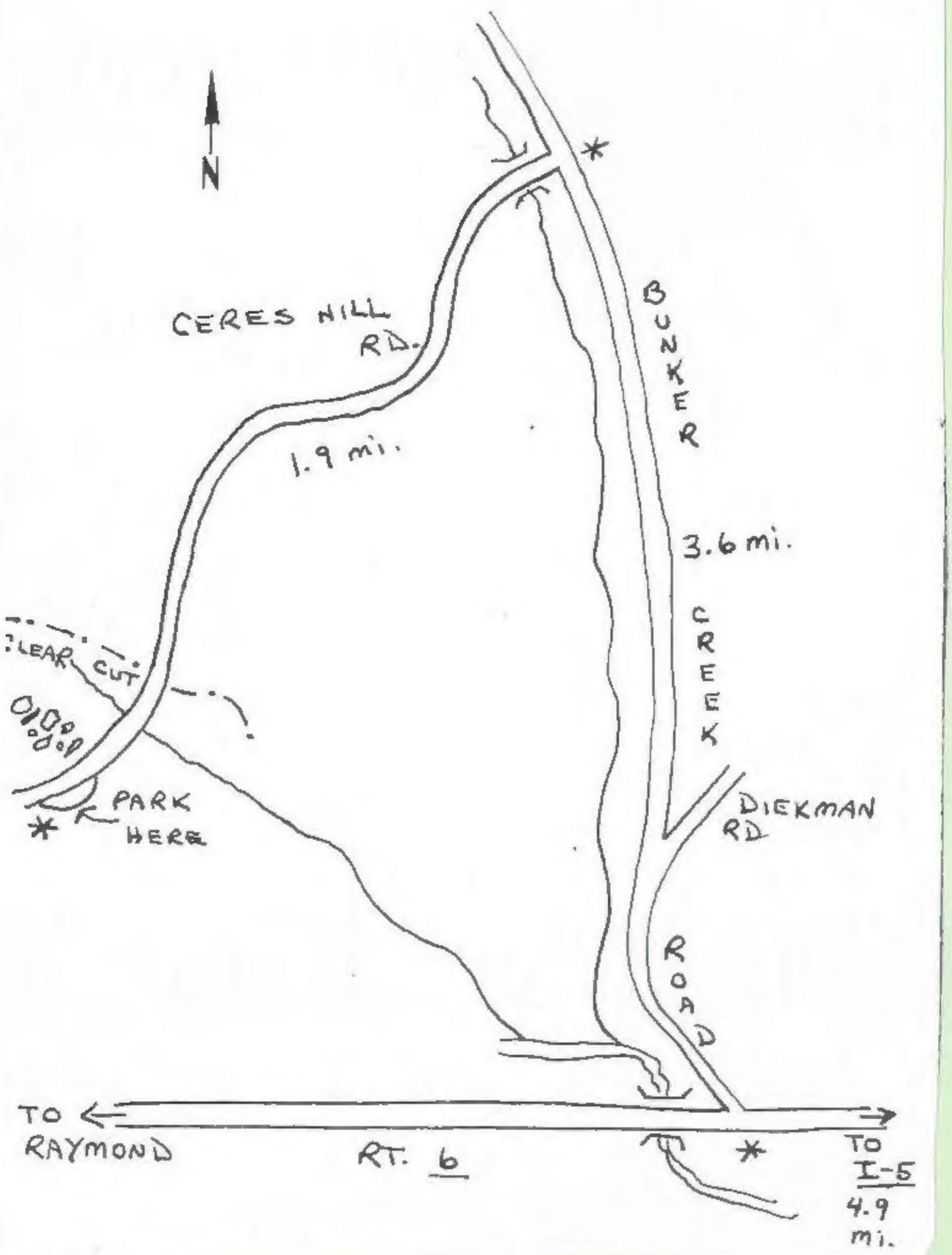
MINERALS: QUARTZ (amethyst, rock crystal, smoky), GOETHITE, CALCITE, all in geodes.

This is our favorite locality for geodes. They are very abundant, and it seems that every time we go, we find a crystal form we haven't found before. The geodes are up to a foot in diameter, and often have "pillars" inside supporting doubly terminated crystals.

If you want to work on top, in fresh rock, bring heavy equipment. Good finds can be had with less work in the talus slope, but of course there's no insurance against damage like opening your own geode. Please look out for people below you before rolling rocks off the top. The distance from the road to the locality is about 150 yards and quite steep.



Sawed half of quartz crystal geode, sawed face measures 8 inches. Walker Valley.



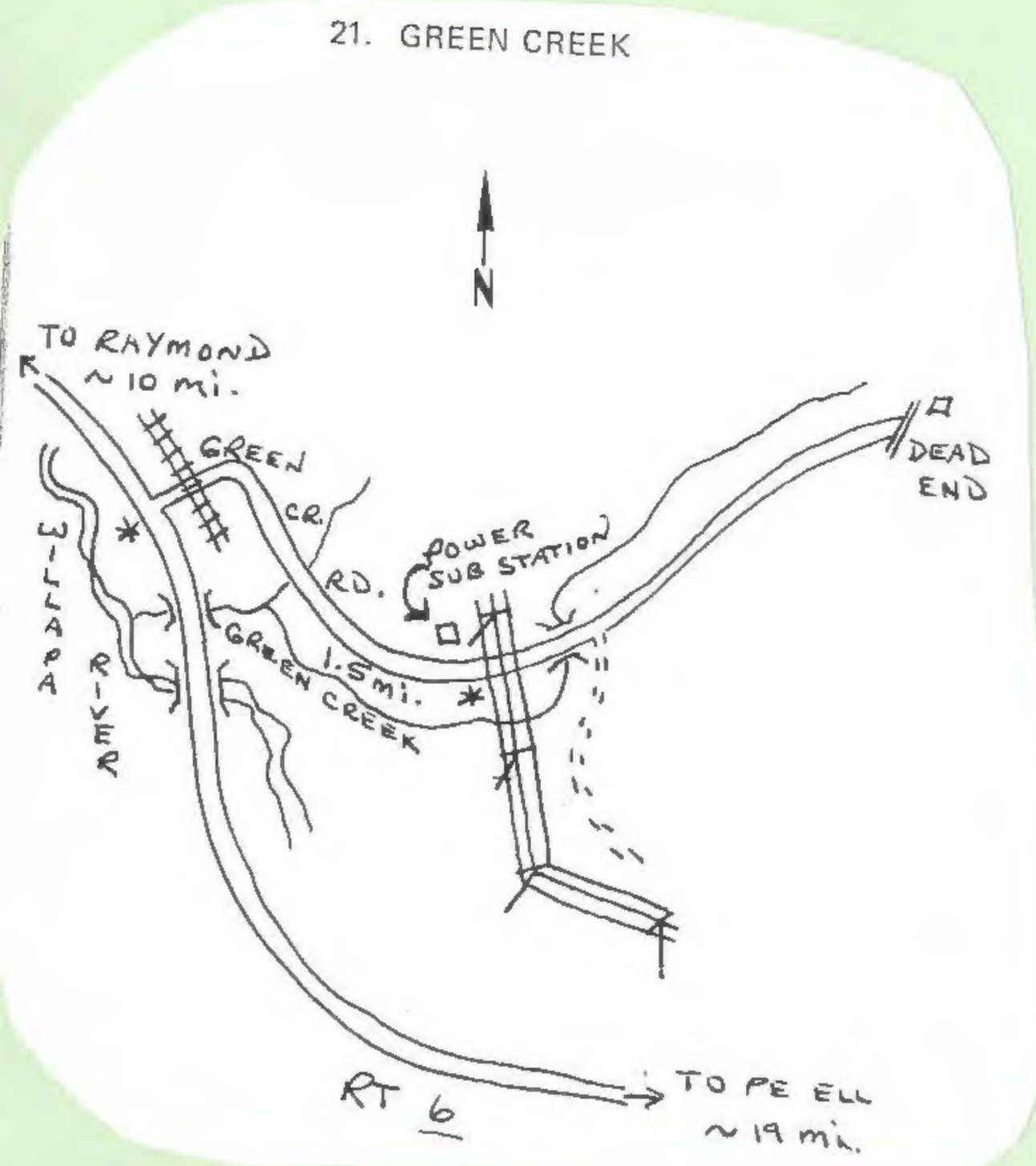

## 20. ADNA

MINERALS: AGATE (carnelian, fortification), JASPER, PETRIFIED WOOD

Adna has been dug for years, and keeps right on producing. The jasper found here is some of the best we've seen from Washington – shades of red and yellow, and very hard. The agates we've found have been smaller than those from the other localities, but very nice. There is more jasper than agate, and very little wood worth keeping.

The agate bearing clay and gravel layer underlies the area at a depth of about 2 feet. We usually just enlarge one of the many holes already dug. Material is scattered all over the clear cut; we've never found anything in the hills beyond. You'll need a shovel and sieve, and if you want to start your own hole, a probe is useful.

21. GREEN CREEK




## 21. GREEN CREEK

MINERALS: AGATIZED FOSSILS (clams and ammonites)

We are not fossil collectors, and therefore have not included fossil localities in this book. If you're into fossils, try Weaver's Tertiary Fossils of Western Washington. However, we've included Green Creek because the specimens are quite unique. Material at this locality is NOT plentiful; we have never found more than two specimens per trip.

Hunt gravel bars and the bed of Green Creek. Any place in the creek seems to be as good as any other. The area under the power lines is indicated because of the easy access at that point. The jeep trail under the power lines intersects Walker Creek about one mile to the east. The same material is found here in the same quantity.

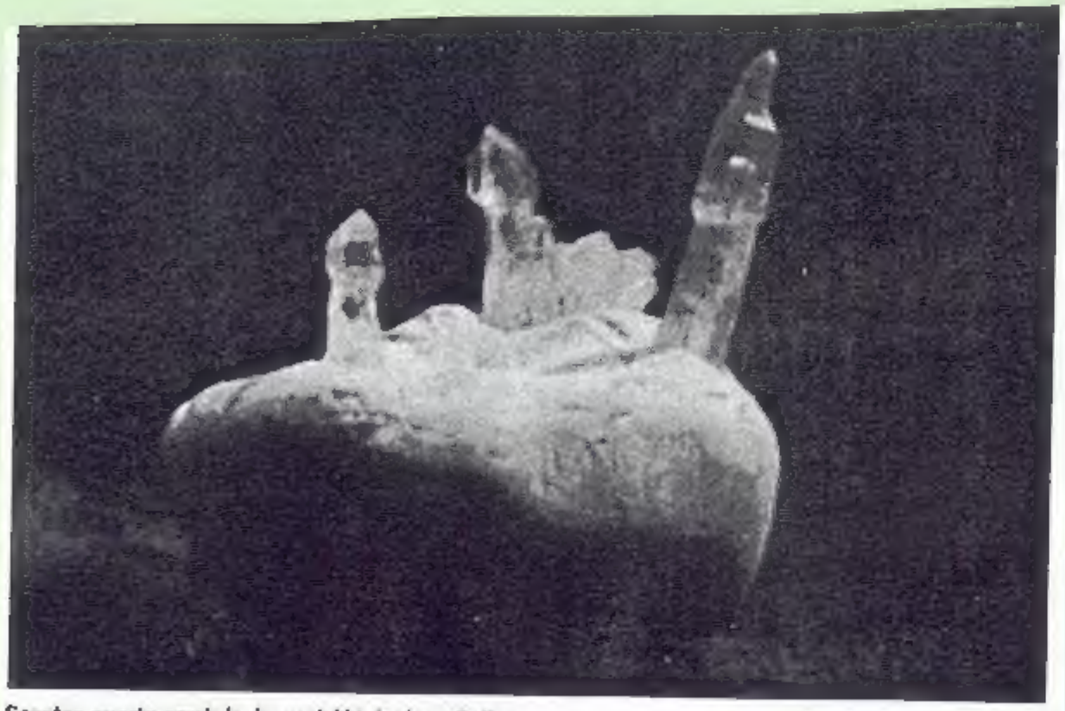
## 22. SULTAN

### MINERALS: QUARTZ CRYSTALS

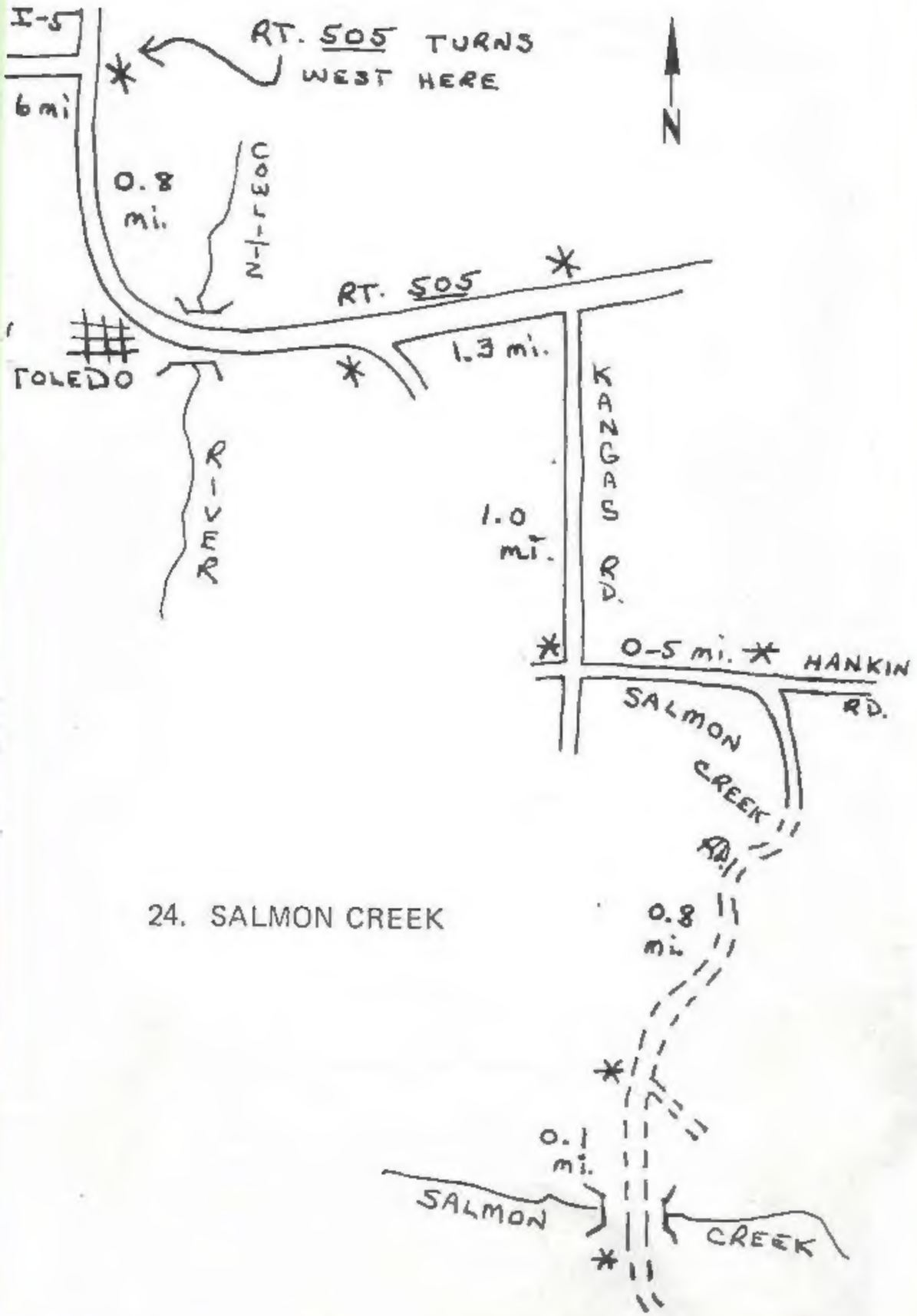
We must admit that the heading for this locality, "quartz crystals", doesn't sound very exciting. But wait until you see them! Twins, sceptors, and unusual second growth forms are common. The largest intact crystal we've found is 3 inches by ½ inch.

Clear quartz crystals are found in gossan-like veins cutting across the cliff. (Gossan is a geologists' term for a spongy, rotten, iron stained weathering product of sulfide minerals: pyrite, chalcopyrite, etc.) Pockets in these veins often contain 100 or more crystals. It would seem reasonable that because the veins are weathered, they would be soft. They are not. The pockets are found by diligent collectors. You'll need heavy tools for the cliff, but leave your big bar at home unless you have rock climbing equipment to anchor it and you to the cliff.

Crystals can also be found by hunting the ground at the base of the cliff. The crystals here are generally smaller, but more perfect and fracture free; only good sound crystals survive the fall.



Sceptor quartz crystals, largest 1¼ inches. Sultan.




24. SALMON CREEK

## 24. SALMON CREEK

MINERALS: AGATE (carnelian, fortification), JASPER, HEMATITE

The agates of Salmon Creek are dug from the creek bed. The creek is fairly large, with many gravel bars. We've found the pieces here to be generally smaller than those of the other localities, but most are of good quality, with nice colors and distinct banding. There is quite a lot of jasper also. Hematite concretions which resemble coprolites are plentiful. (Genuine coprolites are fossilized feces). We've seen interesting specimens called "petrified driftwood" from this locality, but have never encountered any ourselves.

You'll need a shovel, sieve and bucket. It is often difficult to distinguish natural gravel bars from someone else's waste pile, so we usually sample several areas before deciding where to concentrate our digging.